



COLUMBIA | SIPA

School of International and Public Affairs

NYC LOCAL LAW 10 OF 2023

A Program Design for
Environmental Impact



Presented by

MPA-ESP LL10 WORKSHOP TEAM

Fall 2023 Final Report

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EXECUTIVE SUMMARY

Urbanization and industrialization in New York City (NYC) have substantially altered the area's natural systems. This land use change, coupled with increasing anthropogenic pollution from industrial activities and vehicular use, has created urban environmental challenges likely to intensify over time due to the impacts of climate change. These challenges encompass issues like stormwater runoff, the urban heat island effect (UHIE), and air pollution. The impact of these challenges is unevenly distributed throughout NYC with low-income and minority communities bearing a disproportionately greater environmental burden, on average, compared to wealthier, predominantly White neighborhoods. Furthermore, these communities often lack adequate access to resources that could mitigate these impacts, such as urban green infrastructure (UGI).

This report describes a recommended program design for the recently enacted NYC Local Law No. 10 of 2023 (LL10), which will advance the city's efforts to deploy UGI as a means of mitigating adverse environmental impacts in EJAs. LL10 directs the Mayor to designate a lead agency to survey city-owned vacant lots in EJAs to assess their suitability for the installation of UGI, and to submit a report to the Mayor by April 2024 detailing their findings.

In the first two sections of this report, we provide the environmental and political background for LL10 in order to contextualize its legislative goals within NYC's broader environmental justice policies. LL10 aligns with other city policies such as PlaNYC and the Green Infrastructure Plan (GIP), which collectively aim to improve residents' quality of life by improving local sustainability practices and mitigating exposure to environmental hazards, while reinforcing the need for a focus on EJAs.

The third section describes LL10's objectives, mandates, and challenges in greater detail. We identify two key objectives across time horizons. In the short-to-medium term, LL10's comprehensive, data-driven survey of vacant lots will streamline future UGI implementation, thus strengthening NYC's long-term ability to mitigate environmental hazards and improve the overall well-being of its residents. We also discuss the unique roles that each of the law's named agencies – the Department of Environmental Protection (DEP), Department of Parks and Recreation (DPR), Department of Transportation (DOT), and Department of Citywide Administrative Services (DCAS) – will play in the survey and reporting process.

In the fourth section we recommend a comprehensive program design for LL10's implementation, centered around an environmental impact approach led by the DEP. We selected this approach over a land size approach and a social/community impact approach based on evaluation criteria spanning data availability, reduction of environmental harm,

EXECUTIVE SUMMARY

conflicting community priorities, displacement risk, and alignment with existing funding priorities. Under the environmental impact approach priority sites are those located in areas which face the highest rate and severity of environmental issues. We chose DEP to lead this program given its existing role in the city's stormwater management initiatives, particularly with respect to the implementation of the GIP.

Also within this section, we offer recommendations for the program's organizational structure and performance management system. Across the involved agencies we propose the formation of an Executive Leadership Team (ELT), responsible for budgetary and staffing oversight, and a Joint Task Force (JTF), responsible for the management of day-to-day activities. The JTF will be led by a LL10 Program Manager, a new dedicated full-time position to oversee all LL10 operations and lead communication across agencies.

Finally, we provide a task-by-task project timeline specifying the staff responsible for each sub-task and the estimated budget. We break the one year program down into two phases. Phase 1 involves the formation of the JTF, the aggregation of existing spatial data on city-owned lots, and the identification of priority sites for in-depth review. Phase 2 involves the collection of site-level environmental and land use data that informs the suitability of the site for specific types of UGI, as well as the compilation of the final report which captures the survey's findings and proposes recommendations for each site. We estimate the overall program budget to be \$830,000, with staffing expenses comprising approximately 75% of this total. Given that staff and funds come nearly entirely from existing agencies and programs, this program would have a limited fiscal impact on the city.

In conclusion, our recommended program design for LL10's implementation presents a cost-effective approach to advancing the city's environmental resilience. By prioritizing an environmental impact approach led by the DEP, establishing a collaborative ELT and JTF, and providing a detailed project timeline with estimated budget considerations, this proposal aims to enhance the city's capacity to address environmental challenges while minimizing bureaucratic inefficiencies. Through LL10, the city can leverage existing resources and initiatives, ultimately contributing to the improvement of residents' quality of life and fostering a more sustainable and equitable urban environment.

ACKNOWLEDGMENTS

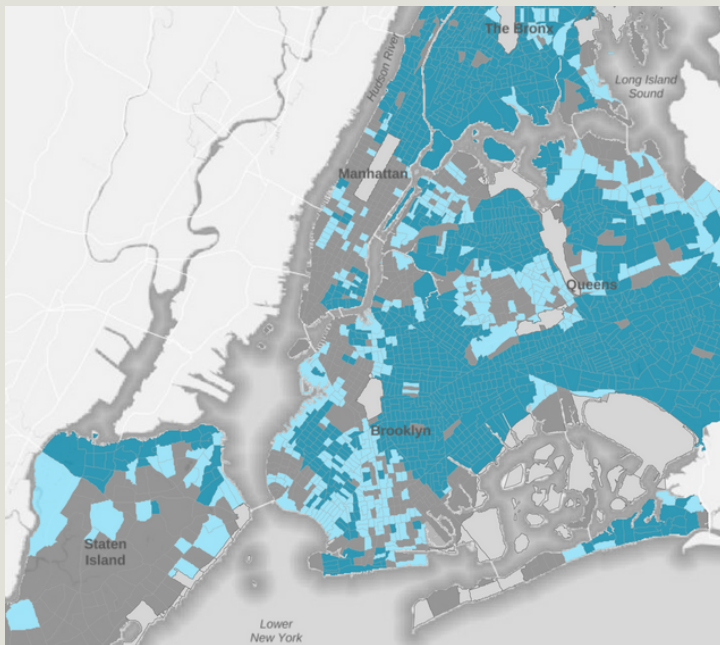
Columbia University recognizes Manhattan as part of the ancestral and traditional homeland of the Lenni-Lenape and Wappinger people. We continue to address issues of exclusion, erasure, and systemic discrimination through ongoing education and a commitment to equitable representation.

This report was developed by MPA candidates in Environmental Science and Policy (ESP) at the Columbia University School of International and Public Affairs (SIPA). Sonali Deshpande managed the group, with deputy management from Jeremy Antoine Raguain. Ellie Alter, Ian Kang Choo, Skye Embray, Tarun George, Vasu Jayanthi, Tamara Jeffries, Sarah Malott, Clarisa Marambio, and Yazan Zafar provided research and editorial support. Professor Louise Rosen supervised the research and drafting of this report and accompanying presentations to the '24 ESP cohort at SIPA. Finally, the group extends special thanks to the individuals who provided expert insights during the research process, including Miki Urisaka, Kerry Goleski, Anna Hellman, Kara Kirchoff, Jenny Sunday, Abby Gunnington, Julia Eyferman, and K.C. Alvey.

I. ENVIRONMENTAL PROBLEMS IN NYC

A. INTRODUCTION

New York City (NYC) is the United States's (US) largest city by population and faces many of the typical urban challenges of the 21st century. NYC's environmental issues, outlined below, emerge from rapid population growth and industrialisation that have created environmental injustices that pose varying levels of risk to different neighborhoods. The vulnerability of individuals and communities is influenced by disparities in climate-resilient infrastructure, socio-economic factors, and community demographics. Environmental Justice Areas (EJA), defined as low-income or minority communities located in NYC, have been drafted by the Mayor's Office of Climate and Environmental Justice (MOCEJ) to highlight certain neighborhoods that are particularly vulnerable [1]. Local Law 10 of 2023 (LL10) is just one of several laws that focus NYC's efforts on advancing environmental justice (EJ) and adapting to climate change. By providing a brief background of NYC and the environmental issues it contends with this section highlights the need for LL10.



EJAs in NYC

(Source: NYC DOHMH)

B. ENVIRONMENTAL PROBLEMS IN NEW YORK CITY

Today, NYC spans 300 square miles and has a population of over 8.3 million people [2]. Centuries ago, this area supported islands, wetlands, forests, and other natural ecosystems, which were the ancestral homelands of the Lenni Lenape and Wappinger indigenous people [3]. In the last few centuries, urbanization and industrialization have dramatically changed the area's land cover, replacing vegetated areas with man-made materials like concrete and asphalt.

Rapid population growth [4] and industrialization have heralded tremendous, though inequitably distributed, economic benefits. However, these benefits have come at the expense of important ecosystem services that natural lands provide. This section explores how NYC's built infrastructure has disrupted natural biogeochemical systems necessary for managing extreme storms and heat – both of which are worsening with anthropogenic climate change. As NYC experiences events such as the record-setting and life-threatening flooding of September 29, 2023 [5], and the three-day heat wave of that same month on a regular basis, addressing the City's capacity to manage such environmental problems is critical.

C. STORMWATER RUNOFF

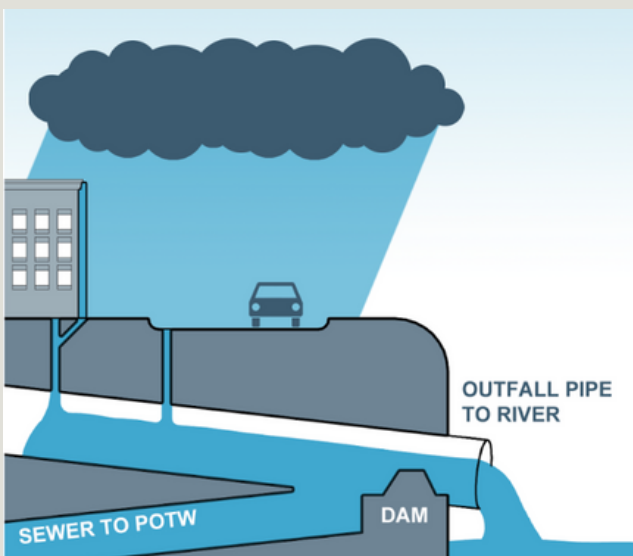
Increasing global temperatures caused by climate change produce more frequent and intense rainfall events [6]. While a forested landscape can absorb 50% of incoming rainwater, with 40% evaporating and 10% flowing as surface runoff, impervious surfaces like asphalt and concrete can reduce the ground's infiltration capacity to 15% and increase runoff to 55%. 72% of NYC's land cover is impervious, rendering the city vulnerable to increased surface runoff that impacts water quantity, quality, and temperature [7].

Peak flows during heavy precipitation can overwhelm storm drains and contaminate waterways by collecting and transporting pollutants from city surfaces and untreated wastewater. 60% of NYC is served by a 150-year-old combined sewage system that collects both rainwater and wastewater, primarily in areas of the city that were developed earliest. This system is ill-equipped to handle the increasing volume of rainfall, storm surge, and sea-level rise that the city will face as a result of climate change [8]. A separate stormwater drainage system serves certain newly developed, low lying areas of the city, such as southeast Queens, south Brooklyn, and Staten Island [9].

In NYC, a precipitation rate of 0.1 inches of rain per hour can overwhelm the combined sewer system and lead to a combined sewer overflow (CSO), designed to prevent back-ups of raw sewage in homes and reduce street flooding, discharges untreated wastewater and stormwater into NYC's waterways. CSOs are common in certain vulnerable areas such as Newtown Creek, Bronx River, Flushing Bay and Coney Island Creek [10].



Sep 29, 2023 Flooding
(Source: JakeOffenhartz/AP)



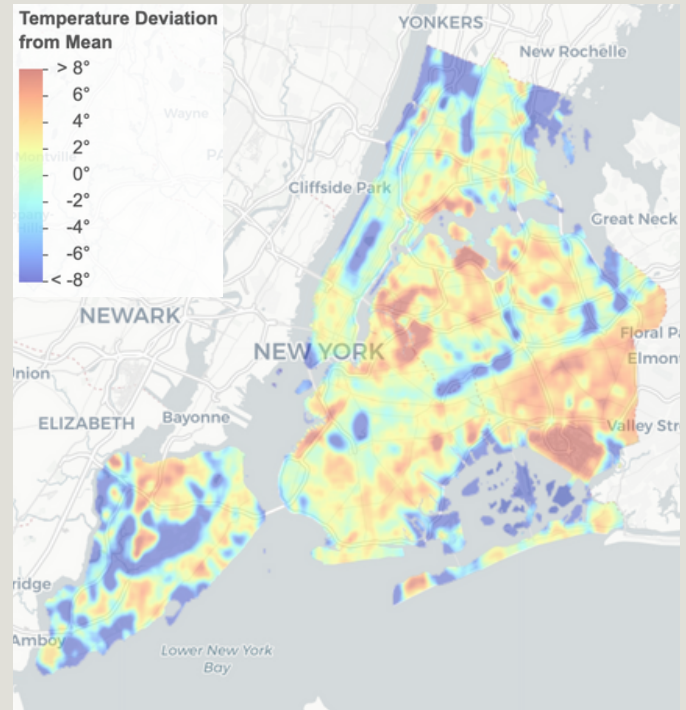
Combined Sewer Overflow
(Source: Daniel Overbay)

However, CSOs are not the only downside of an inadequate stormwater management system. During even moderate rain events, stormwater runoff collects on NYC streets and can lead to rapid flooding that damages critical urban infrastructure. These events collectively discharge 30 billion gallons of sewage into the city's watershed annually, negatively impacting human health by introducing a variety of harmful contaminants [11].

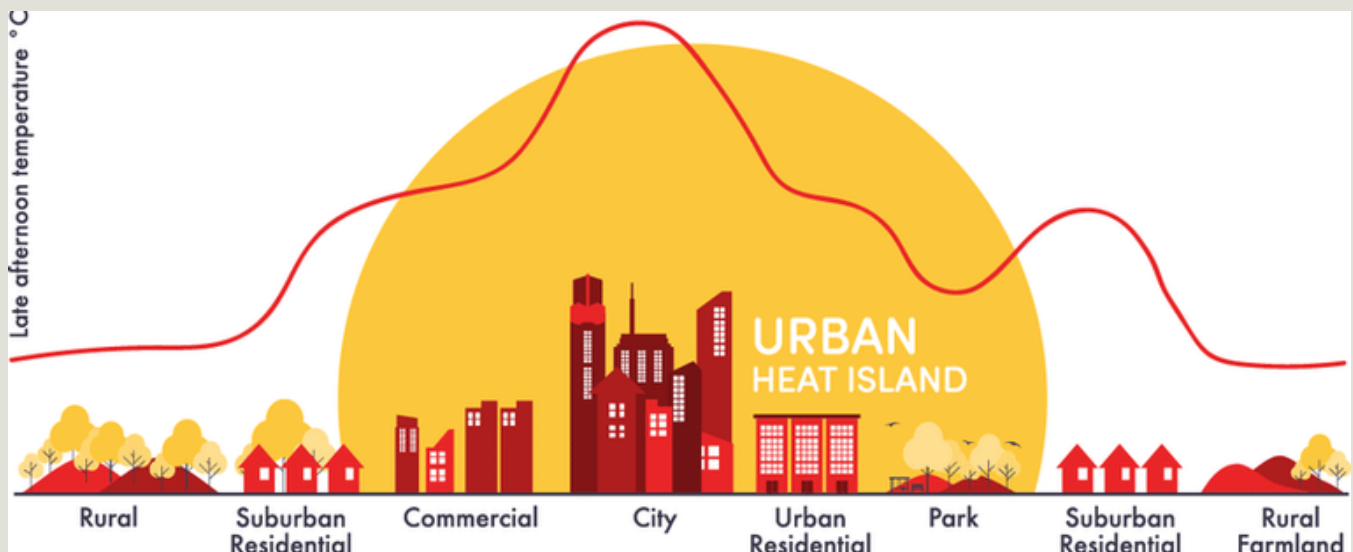
D. THE URBAN HEAT ISLAND EFFECT

The built environment, with its abundance of dark surfaces and sparse vegetation, drives the Urban Heat Island Effect (UHIE), where cities are hotter than nearby rural areas (see diagram below). NYC is an average of 9.5 °F hotter than surrounding areas, placing stress on residents as climate change leads to hotter summers and more intense heat waves [12]. Dark urban surfaces like pavements and rooftops absorb sunlight throughout the day and slowly re-emit it as heat, unlike natural surfaces, which typically reduce heat by reflecting sunlight back into space. Areas with tall, compact buildings exacerbate the UHIE by trapping the heat that urban surfaces radiate and blocking wind currents [13] [14].

Exposure to heat stress varies across the city depending, in part, on an area's tree canopy cover and ground-level vegetation. The UHIE is particularly severe in thousands of EJAs across the city's boroughs (see Appendix A) [15]. Extreme heat can put vulnerable populations at risk of serious health impacts, ranging from acute reactions such as nausea and heat stroke to exacerbation of longer-term chronic health issues such as cardiovascular, kidney, and respiratory illness [16]. In the summer of 2022 alone, heat was responsible for 370 deaths in NYC. City-level data on heat vulnerability indicates that vulnerable populations, such as older adults, young children, and health-compromised individuals, face significant levels of heat exposure. Finally, heat also drives chemical reactions in the atmosphere, which may increase the levels of health-harming air pollutants like ozone [17].



Urban Heat Island Effect in NYC
(Source: Columbia Climate School)



The Urban Heat Island Effect

(Source: WMO)

E. CONCLUSION

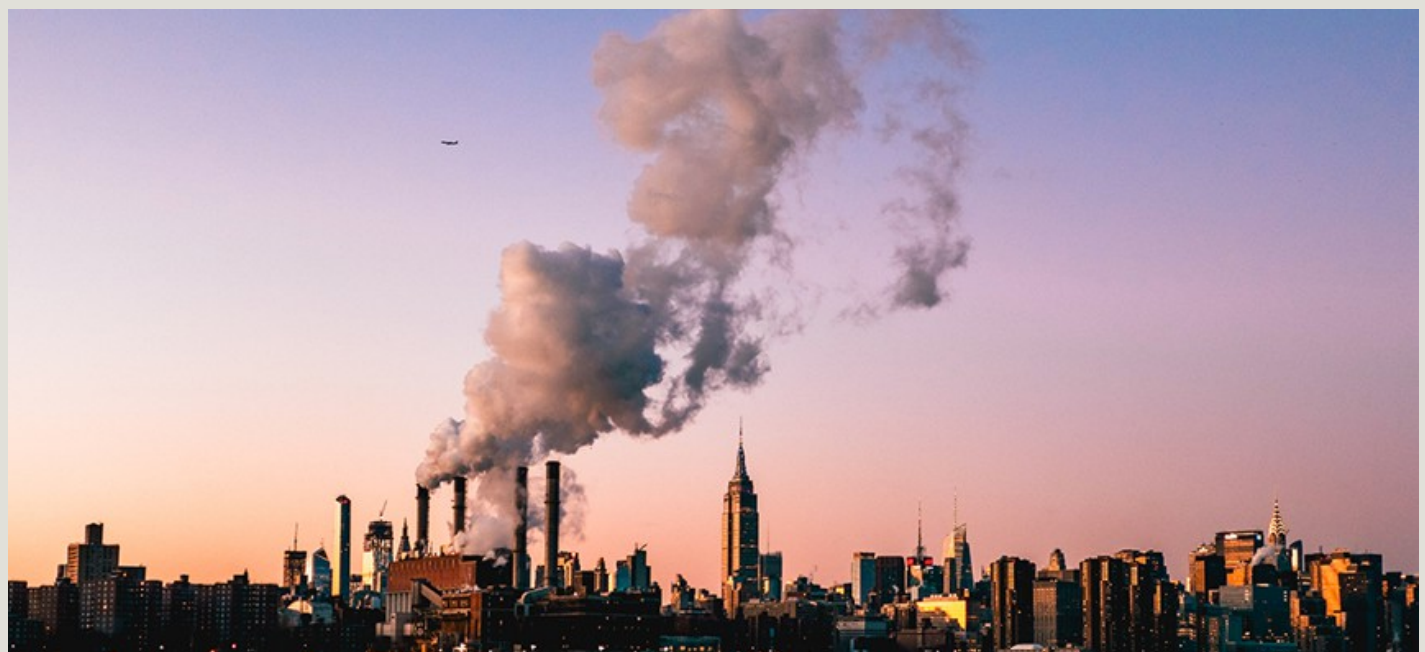
Stormwater runoff and the UHIE present a myriad of threats to NYC's residents and their quality of life. These problems are set to deepen with climate change, creating especially dire living conditions for the city's most disadvantaged communities. They are not the only environmental problems that the City faces, as air pollution from residential and industrial activities claims hundreds of lives in the city every year. However, this report focuses on environmental problems which UGI is scientifically proven to mitigate – flooding and heat. In addition to their human health impacts, these problems pose obstacles to the city's continued development and economic health, and their uneven and unpredictable impacts complicate urban planning. The next section explores the role of UGI in addressing these critical issues.



Labor Day heat wave in NYC
(Source: New York Times)



Late September flooding
(Source: USA Today)



Industrial pollution over NYC

(Source: City & State New York)

CASE STUDY: MOTT HAVEN, SOUTH BRONX

Population (2021): 45,000 [52]

Demographics (2021): 66% Hispanic, 27% Black, 4% White, 1% Asian [18]. The median household income is \$32,000. The poverty rate is 37%. Designated as an EJA by the Mayor's Office of Climate & Environmental Justice.

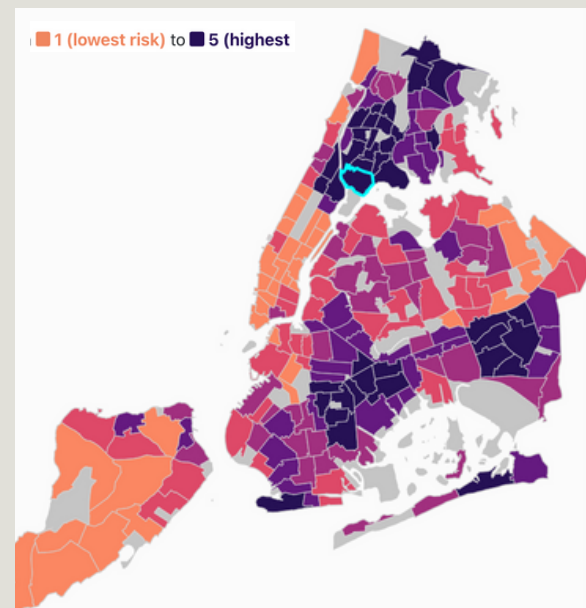
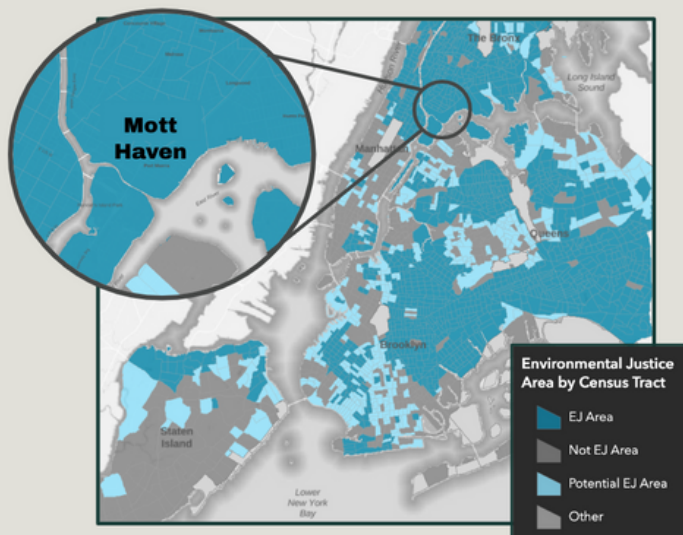
Topography: Mott Haven is a relatively flat, low-lying neighborhood bordered by two waterways, East 149th St, and I-278. It is sparsely vegetated (11% tree cover compared to 21% in NYC overall) and is served by just one major park, St. Mary's Park.

Environmental Issues: Due to its topography, Mott Haven is a designated flood zone by the NYC Department of Planning [19]. In the map to the left, Mott Haven's current floodplains are shaded in light blue. This area is expected to increase over the next several decades due to the impacts of climate change. Mott Haven's proximity to major highways and industrial facilities, including waste transfer stations, fossil fuel peaker plants, and warehouses increase local diesel emissions, which produce adverse health impacts for community residents.



Figure 4.2 Mott Haven Area
(Source: Google Maps)

Higher-than-average asthma rates in the area, driven by these high pollution levels, have led it to be known colloquially as “Asthma Alley” [20]. Mott Haven receives a score of 5 (highest risk) on NYC’s Heat Vulnerability Index, which assesses where residents are more at risk of death during and immediately following extreme heat, defined in NYC as two or more days with a heat index reaching 95 °F, or 1 or more days reaching 100 °F [21]. This can be seen in the map below which displays neighborhood-based heat vulnerability. Mott Haven is outlined in light blue. Neighborhoods are scored from **1 (lowest risk)** to **5 (highest risk)**.



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II. URBAN GREEN INFRASTRUCTURE: A KEY SOLUTION



(Source: Gardenista)

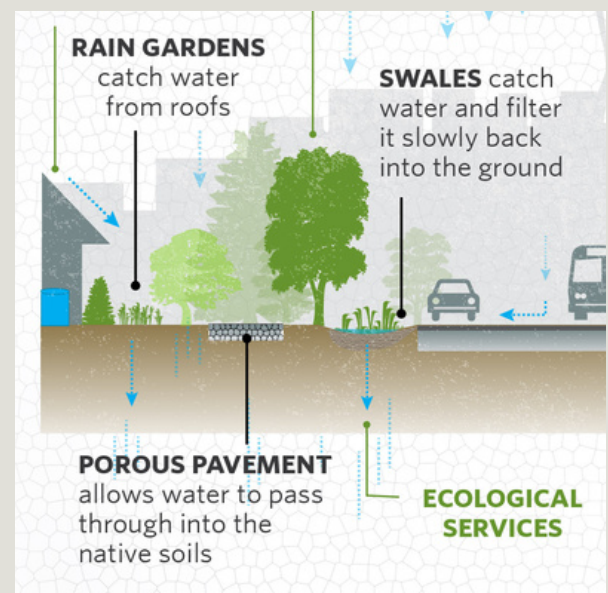
A. INTRODUCTION

Urban green infrastructure (UGI), or small-scale vegetated areas designed for urban environments, can increase a city's resilience to environmental risks. By reintroducing nature to the built environment, effectively designed UGI can reverse some of the disruption that urbanization has caused to natural systems and restore the land's ability to manage growing environmental threats such as flooding, CSOs, and urban heat. UGI can also improve urban residents' health and wellbeing.

LL10 is a key first step in expanding UGI deployment in NYC, and its objectives fit squarely within the city's broader efforts to advance sustainability and environmental justice. Amid the scarcity of land for development in the city, LL10 identifies opportunities to advance existing UGI-focused initiatives, including the city's Green Infrastructure Plan (GIP). Former Council Speaker Corey Johnson and current Council Speaker Adrienne Adams have called for the city to extend UGI into dead ends and other areas lacking vegetation.

B. THE SCIENCE BEHIND UGI

Research demonstrates that UGI can reduce many of the environmental risks that NYC faces. For example, UGI reduces stormwater runoff by replacing urban surfaces such as pavement and concrete, which water can only minimally penetrate, with permeable natural systems such as soil and vegetation [1]. In neighborhoods with extensive impervious surfaces and flood-prone topographies, bioswales can reduce and slow runoff that enters into combined sewer systems. Furthermore, UGI may also reduce urban heat by preventing sunlight from reaching dark urban surfaces like asphalt, which absorb high portions of incoming shortwave radiation and re-radiate it into the atmosphere as heat energy [2].



UGI for Stormwater Management
(Source: The Nature Conservancy)

Small parks and street trees can reduce the temperature of adjacent built environments, and their shade can serve as critical places of respite during heat waves. Finally, trees can act as a barrier between highways and neighborhoods, reducing the exposure of communities to pollutant emissions. While City agencies have already installed UGI in many high-income neighborhoods to address these problems, UGI is severely lacking in many Environmental Justice Areas (EJAs), which are especially vulnerable to the impacts of environmental problems.



(Source: NYCDEP)

C. PLANYC & POLITICAL CONTEXT

In 2007, then-Mayor Michael Bloomberg's administration launched a series of comprehensive plans, collectively known as PlaNYC, to address the city's environmental problems [3]. The first PlaNYC report established key goals that set the stage for LL10, including ensuring that all New Yorkers live within a 10-minute walk of a park and reducing the rate of CSOs to improve NYC's water quality. Pursuant to these plans and a consent order between NYC and New York State to reduce CSOs, the Department of Environmental Protection (DEP) launched the \$1.5 billion GIP in 2012. Through the deployment of both gray and green infrastructure and improvements to the city's wastewater infrastructure, the GIP aims to reduce CSO by 1.67 billion gallons per year and convert 8,000 acres to green space by 2030 [4] As of 2021, DEP has achieved a reduction of 507 million gallons in CSO and created 1,181 acres of additional greenspace.

Mayor Eric Adams' administration published the most recent PlaNYC report in 2023. The plan sets forth initiatives to protect NYC from climate change impacts including extreme heat and flooding, and to improve New Yorkers' quality of life by expanding access to green space and clean waterways. Among these initiatives, the plan aims to create over 10 acres of new open green space and expand the implementation of the GIP. A month after PlaNYC 2023's release, the city dedicated an additional \$2 billion to the GIP, which already represented the largest plan of its kind in the nation [5].

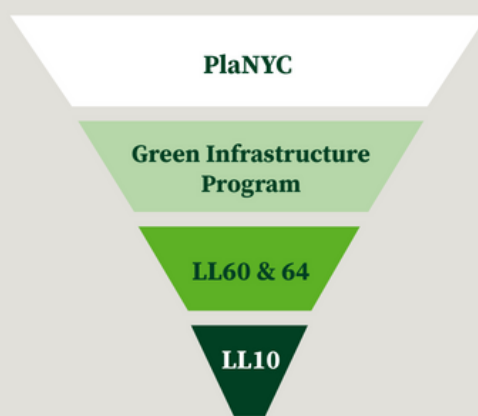


GIP Investment After Hurricane Ida
(Source: NYC Mayor's Office)

Environmental justice (EJ) is key to NYC’s efforts to address these environmental challenges. In 2017, the city council passed Local Laws 60 and 64, which mandate that the city’s Environmental Justice Interagency Working Group conducts and publishes a public report on the state of EJ in NYC [7][8]. The EJ Plan will provide guidance on incorporating EJ concerns into City decision-making, identify possible citywide initiatives for promoting EJ, and provide specific recommendations for City agencies to bring their

operations, programs, and projects in line with EJ concerns [6]. In addition to updating the EJ Plan every five years, the Interagency Working Group will work with an advisory board of City officials to ensure that the plan incorporates the needs of the public and findings from the City’s first comprehensive EJ study.

LL10's Policy Context



D. LOCAL LAW 10'S LEGISLATIVE HISTORY

LL10 fits squarely within these initiatives, as it aims to generate data that can advance the deployment of UGI in areas like EJAs which need them most. Council Member Shekar Krishnan introduced LL10 in September 2022 and 38 Council Members sponsored the bill. The NYC Council passed LL10 on December 21, 2022. Mayor Eric Adams neither approved nor disapproved the legislation after thirty days, thereby enacting it into law on January 20, 2023. The bill’s potential contribution to PlaNYC goals and lack of fiscal impact likely contributed to its successful passage. LL10 advances the city’s EJ, water quality, and urban greening priorities by generating data that can be used to expand UGI in EJAs. While LL10 does not mandate additional UGI or earmark funds for UGI implementation, the law facilitates future efforts to deploy UGI in EJAs and other areas facing significant environmental challenges.

NYC Council’s Committee on Parks and Recreation enacted LL10 alongside Local Laws 7 and 16 of 2023 [9][10]. These laws aim to improve DPR’s capital expenditure reporting process and expedite capital projects, in response to public concerns about the city’s ability to meet UGI and EJ targets.

E. CONCLUSION

In conclusion, LL10 is situated within the existing policy frameworks that the City has been developing for more than a decade. It sharpens the City’s focus on EJ, seeking to address the longstanding inequities that exist in the distribution of UGI and its related benefits. The following section provides a closer look into LL10’s mandates and areas of discretion, which inform how the law may achieve its objectives.

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III. LL10: LEGISLATIVE SUMMARY

A. INTRODUCTION

LL10’s design complements the broad goals of PlaNYC and the city’s forthcoming EJ Plan while navigating political and administrative constraints at the City level. The bill directs the Mayor to designate a lead agency to survey key sites in EJAs to assess their suitability for the installation of UGI, and to submit a report to the Mayor in April 2024 detailing their findings. While the bill text offers the Mayor and City agencies flexibility in designing and implementing the program, its ultimate aim is to encourage future UGI deployment to mitigate key environmental and social issues in NYC EJAs. See Appendix B for the full text of the bill.

NEAR-TERM GOAL

Encourage NYC to deploy more UGI, concentrating on EJAs, where UGI will be particularly effective for reducing environmental and social burdens

LONG-TERM GOAL

Improve NYC’s resilience to environmental risks such as extreme flooding and heat, and improve the overall well-being of its residents

B. BILL MANDATES

Specific mandates in the bill may help to achieve these objectives. LL10 requires the Mayor to designate a lead agency who will coordinate among other City agencies to survey specific city-owned vacant lots to assess their suitability for conversion into small-scale UGI [1]. This lead agency must develop a methodology for selecting which sites to review, while incorporating requests from various stakeholders, including members of the public. It must then submit a report of all sites reviewed to the Mayor and Speaker of the Council no later than April 1, 2024.

The bill lists specific types of vacant lots to survey, including streets with dead ends and vacant land near highway entrances and underpasses. The lead agency must also prioritize sites in “environmental justice areas” (EJAs) [2] which the City’s Administrative Code defines as “a low-income community located in the city or a minority community located in the city” [3]. Moreover, the final report will include analysis for each site on the feasibility of planting vegetation or implementation of a green space, steps needed to install features, time needed to install features, and the estimated costs [4].

LL10 requires the involvement of the following agencies: DEP, DPR, the Department of Transportation (DOT), and the Department of Citywide Administrative Services (DCAS) [5]. These agencies have either the resources or expertise necessary to implement this bill, though additional agencies may be consulted as needed.



DEP leads the City's \$3.5 billion GIP and has years of experience deploying UGI to manage stormwater in NYC. The agency's expertise and resources will be critical for implementing LL10.



NYC Parks

DPR has partnered with DOT on the Greenstreets initiative to transform unused road areas into green spaces that improve air quality, reduce air temperatures, and calm traffic. After a 2012 consent order to reduce CSOs, this unit has shifted to aiding DEP in stormwater management.



DCAS owns and maintains many of the vacant lots specified in LL10, so they will provide the lead agency with data on the physical characteristics of vacant lots, including their size and geographic location.



The same is true for DOT, who also owns and maintains many of the lots specified in LL10. DOT will also work with DEP to ensure that any UGI sites located near roads and highways comply with right-of-way guidelines and traffic safety standards.

C. AREAS OF DISCRETION

Firstly, the bill leaves the designation of the lead agency up to the Mayor and allocates no funding for the implementation of the bill. The Mayor may therefore choose to designate a lead agency based on resources available at the agency level, among other considerations. It also provides little indication about the role of other agencies and/or the Mayor's office in the bill's implementation.

Secondly, the bill does not specify the exact sites that the lead agency should survey, nor does it indicate how it should prioritize sites. It does not mandate a specific survey methodology or identify how other agencies should be involved. It does not elaborate on the specific findings that the report should include to indicate a site's suitability for UGI, nor does it require that certain types of UGI be considered beyond the examples listed in the bill (e.g., small parks, bioswales, and other green spaces).

Finally, the bill does not include any requirements beyond the submission of the report, leaving it up to the Mayor, City agencies, and other stakeholders to decide how the findings may translate to actual deployment of UGI.



Septuagesimo Uno Park, Manhattan (Source: Untapped Cities)

D. IMPLEMENTATION CHALLENGES

One challenge that the City might face in implementing LL10 is the practical feasibility of collecting data on the geographic, physical, and environmental characteristics of sites. While existing databases or tools may account for certain characteristics, others (e.g., bedrock depth) may require additional data collection [6]. Another challenge is the City's shrinking tax base and growing set of competing priorities [7], which limit the amount of funding and resources available for collecting, analyzing, and compiling data. This constraint will be exacerbated by the lack of additional funding attached to LL10.

E. IMPACT STRATEGY

Depending on the structure and content of the final report, LL10 may encourage the deployment of UGI in two ways:

- 1.City Council members and community boards representing districts in which sites were assessed may use the report's findings to advocate for new capital funding for specific UGI installations at those sites; and
- 2.City agencies like DEP may use the report's findings to allocate existing UGI funding to sites assessed in the report. The prioritization of sites in EJAs will help to encourage UGI deployment in areas facing significant environmental and social burdens that UGI can help to address.

It is important to mention that installing and maintaining UGI in those areas may face more political and economic challenges than in other areas. For one, City Council members who represent those districts may prioritize capital funding for projects that they deem more urgent, such as cooling centers in neighborhoods with high heat vulnerability. Additionally, many green spaces in NYC are jointly maintained by the City

and nonprofit associations given the limited resources for maintenance at DPR, and such associations are less likely to operate in EJAs.

F. CONCLUSION

In conclusion, the bill mandates the Mayor to select a lead agency among DEP, DPR, DCAS, and DOT to work with the other agencies to determine a survey methodology, implement the survey, and submit the final report. It also requires the agencies to survey city-owned vacant lots in specific locations, prioritizing sites in EJAs, and to submit a report to the Mayor in April of 2024 detailing the findings of its survey. The remaining aspects of LL10's implementation, including the lead agency, the survey methodology, the personnel involved and their responsibilities, and the amount and source of funding involved, are areas of discretion for City officials responsible for designing and implementing the bill.

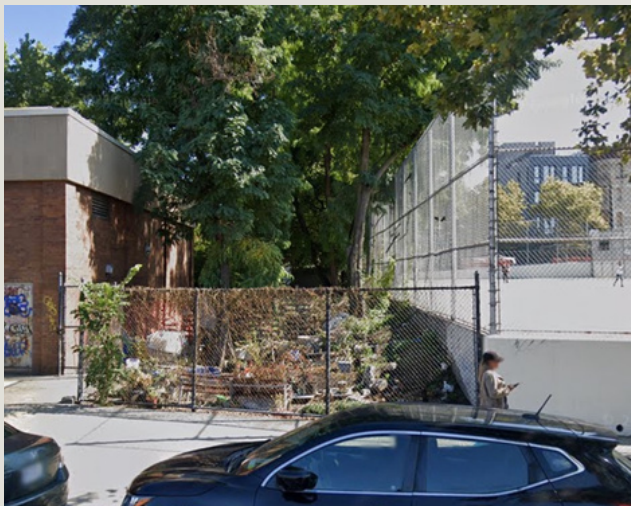
The flexibility of LL10's design allows the City to make optimal use of its resources (e.g., personnel, funding) in designing the program. However, it also risks undermining the robustness of the survey and report, thereby reducing the likelihood that LL10 will achieve its goals of encouraging UGI deployment in the short-term and promoting social and environmental resiliency in the long term. The next section will detail our selected program design, which accounts for the bill's mandates while maximizing the likelihood that it achieves its short- and long-term goals.



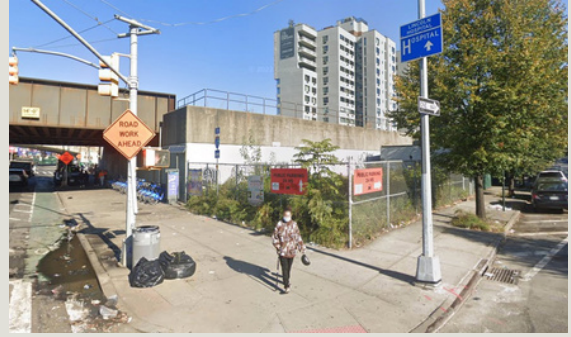
UGI AS A SOLUTION IN MOTT HAVEN

UGI as a Solution: NYC can leverage native plants in Mott Haven that are already adapted to the local climate and seasonal precipitation patterns. The thornless honey-locust tree is an example of a tree that may be suitable for sites prioritizing stormwater management. It is a hardy tree tolerant to high water saturation, drought, wind, pollution, and high pH levels – factors that can commonly be found in urban settings. The thornless honey-locust is the most commonly planted tree in Mott Haven and currently comprises approximately 8% of trees in the neighborhood [8].

According to the United States Department of Agriculture (USDA) Forest Service, a mature medium-sized tree has the potential to intercept nearly 2400 gallons of stormwater every year [9]. The ability to leverage this potential in an urban setting would be dependent on several key factors including soil depth and the direction of stormwater runoff. If a tree is not planted in an adequately sized tree pit, its roots will likely be unable to mature to full size, thereby retarding its ability to absorb stormwater.



Vacant Lot, 626 St. Ann's Ave., Bronx (Source: Google Maps)



Vacant Lot, 195 E 138th St, Bronx (Source: Google Maps)

UGI in Vacant Lots: Currently, according to data from DCAS, there are 39 City-owned vacant lots in Mott Haven. Of these 39 lots, seven fall within the scope of Local Law 10 and are potentially suitable for siting additional green infrastructure. For example, the City-owned vacant lot in the image (above) is located in the floodplain and near a major highway entrance, which makes it well-suited for a green space aimed at addressing stormwater management and air pollution sequestration. Planting in layers, such as by surrounding trees with shrubs and ferns, increases a green space's stormwater retention and evapotranspiration potential.

Other vacant sites in Mott Haven near schools may be suitable candidates for small parks, such as the lot adjacent to University Prep Charter High School in the image (left). Given the frequent pedestrian traffic, a small park with large-leaf trees can potentially provide additional canopy, alleviating heat stress and serving as a refuge from extreme heat. In addition, it could generate additional co-benefits by serving as a community space for residents, particularly the students and their families.

SECTION III: REFERENCES

1. New York City Local Law No. 10 of 2023, Council Int. No. 680-A of 2022.
2. New York City Local Law No. 10 of 2023, Council Int. No. 680-A of 2022.
3. New York City Administrative Code: N.Y.C. Admin. Code §§ 3 - 1001.
4. New York City Local Law No. 10 of 2023, Council Int. No. 680-A of 2022.
5. New York City Local Law No. 10 of 2023, Council Int. No. 680-A of 2022.
6. NYC Department of Environmental Protection. (2010). NYC Green Infrastructure Plan: A Sustainable Strategy for Clean Waterways. The City of New York. [Green Infrastructure Plan](#)
7. Rubinstein, D. (2022, September 19). New York City Faces Potential Fiscal Crisis as \$10 Billion Deficit Looms. *The New York Times*.
<https://www.nytimes.com/2022/09/19/nyregion/budget-crisis-economy-nyc.html>
8. NYC Department of Parks and Recreation. (n.d.). Mott Haven–Port Morris. New York City Tree Map. <https://tree-map.nycgovparks.org/tree-map/neighborhood/235>
9. [Environmental Justice Interagency Working Group, New York City’s Environmental Justice for All Report \(2021\)](#). NYC.gov. Retrieved from <https://www.nyc.gov/assets/sustainability/downloads/pdf/EJ-Report-Scope.pdf>

IV. LL10 PROGRAM DESIGN

A. INTRODUCTION

Our proposed program design for LL10 requires the selected lead agency to implement the mandated survey in two phases: (1) Development of a methodology for site identification based on LL10's objectives, agencies' expertise and resources, and stakeholder feedback; and (2) Assessment of selected sites to determine their suitability for UGI. This section describes the three program design options originally considered for phase (1) of the program and analyzes each option to inform the selection of one. It then provides an in-depth summary of the proposed program design for LL10, beginning with an outline of the organizational chart and staffing considerations before detailing the tasks involved in each phase, including their budget, timeline, and key performance indicators (KPIs).

B. PROGRAM DESIGN SELECTION

Three program design options were proposed in efforts to fulfill LL10's mandates and address its areas of discretion. This section outlines and analyzes each program design option for implementing LL10 implementation and identifies the option most likely to achieve LL10's objectives.

Core Program Components

To fulfill LL10's mandates, each program design option must include the following two standard operating procedures (SOPs):

1

Areas of Discretion

The lead agency determines which area(s) of discretion (e.g., increased citizen access to green space, reduction of environmental hazards, and increased public and community engagement) align with current city/organizational priorities (e.g., stormwater management) to inform the methodology for site selection and prioritization.

2

Data Gathering and GIS Mapping

Agencies will gather key data on the number, location, land-use characteristics, and environmental data of specified city-owned lots (e.g., streets with dead ends, vacant land near highway entrances and underpasses, etc.), prioritizing EJAs, as well as topographical, geological, and city infrastructure data surrounding available lots.

I. PROGRAM DESIGN OPTIONS



Heather Garden (Source: CurbedNY)

1. Land Size Approach:

Using this approach, the lead agency selects priority sites based on the size and/or frequency of lots in an EJA, prioritizing larger UGI installations such as small parks and community gardens to increase the overall amount of vegetation in an EJA and increase citizen access to green spaces. The benefit of this approach is that DEP and DPR already have the most data about the environmental and topographical characteristics of the largest lots vacant lots (decreasing the need for additional data collection), and larger green spaces have greater potential to provide community co-benefits by providing space for recreation, education, and social interaction. However, the approach may undervalue small-scale UGI which are important for stormwater management, such as bioswales or rain gardens , and may not mitigate the risks of green gentrification and displacement of low-income and minority communities in EJAs.

2. Environmental Impact Approach:

Using this approach, the lead agency selects priority sites based on the highest rates of environmental problems in an area that UGI may help mitigate: stormwater runoff, the urban heat island effect, and air pollution. This approach maximizes the use of information agencies have already collected via PlaNYC, aligns with LL10 goals to reduce environmental harm in EJAs, and creates clear, identifiable, and quantifiable performance indicators of UGI installation (e.g., inches of stormwater runoff reduced, temperature reduction in degrees, and air quality improvements through reductions in PM2.5 concentrations). It also aligns with well-funded city initiatives such as DEP's Green Infrastructure Plan. However, this approach does not consider individual community preferences for green spaces or other community needs, does not address the risk of green gentrification and its potential impacts on communities, and may lead to developing one type of green infrastructure over others.



Curbside Rain Gardens

(Source: Water Environment Federation)



Upper West Side (Source: NYT)

3. Social Impact Approach:

Using this approach, the lead agency selects priority sites based on social demographics and other indicators of community needs beyond the City's definition of EJAs, including the prevalence of adverse health conditions, poverty, housing insecurity, and crime. DEP will use these indicators to create a site selection process that excludes potential sites that communities may use for other purposes, such as cooling centers, housing developments, or other public infrastructure. This approach is most considerate of conflicting community preferences for vacant land use other than UGI, and it decreases the risks of green gentrification and community displacement. However, it does not prioritize areas with the highest exposure to environmental risks.

ii. ANALYSIS OF PROGRAM DESIGN OPTIONS

For each program design option, a ranking was assigned from 1- 4 based on the degree to which it is practically feasible and facilitates the achievement of LL10's objectives as outlined in Section 4. *Appendix C* provides a detailed description of the analytical criteria used to evaluate each program design option. *Appendix D* defines score values for each analytical criterion. *Appendix E* provides the resulting score sheet used to inform the selection of the recommended program design.

Score:
3.2/4

Recommendation

Environmental Impact Approach (EIA)

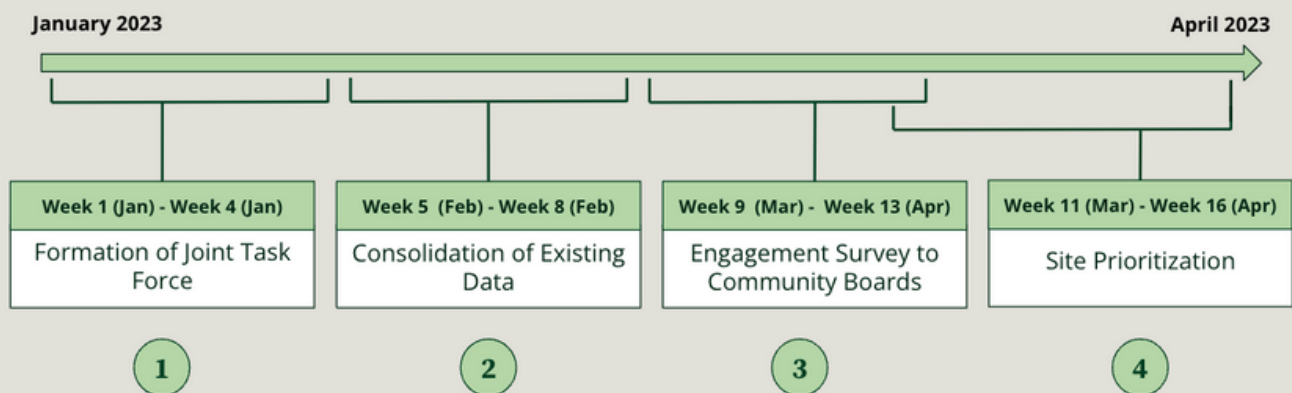
We recommend an Environmental Impact Approach (EIA) for site selection based on our quantitative and qualitative analysis of each program design option. Based on the evaluation criteria, this approach prioritizes the reduction of environmental harm and demonstrates more benefits than challenges for DEP to conduct site evaluations. When evaluating this approach using the described criteria, the EIA received the highest average score of 3.2 compared to the other program design options, which received 2.8 (Land Size Approach) and 2.6 (Social/Community Impact Approach). However, given that community preferences are not the primary goal of the EIA, it is important to include deep community engagement throughout the process to maximize impact and avoid displacement. This is especially important as UGI deployment under LL10 is prioritized in EJAs.

C. PROGRAM DESIGN RECOMMENDATION

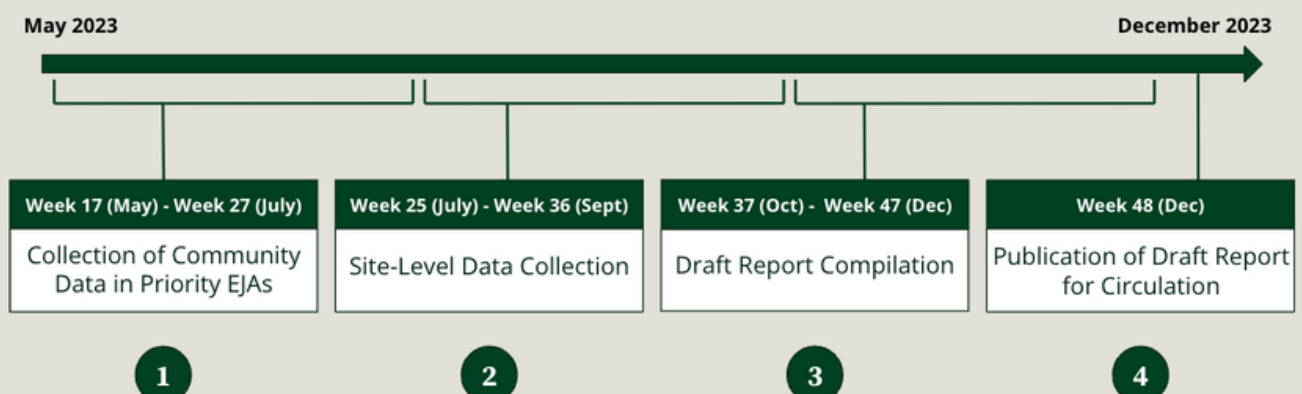
We propose a two-phased program design that fulfills LL10's mandates, aligns with the EIA, and maximizes the use of existing city resources. The program design assumes the selection of DEP as the lead agency, given the agency's experience running NYC's \$3.5 billion GIP. Having deployed bioswales, infiltration basins, and other UGI for stormwater management over the last several years, DEP has the expertise and resources to assess the suitability of city lots for UGI. Phase 1 of the program design will involve the formation of a Joint Task Force to lead LL10's implementation, the aggregation of existing data on city-owned lots, and the identification of priority sites for a more in-depth review. Phase 2 will involve the collection of site-level data that informs the suitability of the site for specific types of UGI, as well as the compilation of a report which captures the survey's findings and proposes recommendations for each site.

The following diagrams illustrate the tasks associated with the two phases, as well as the recommended timeline.

Phase 1:



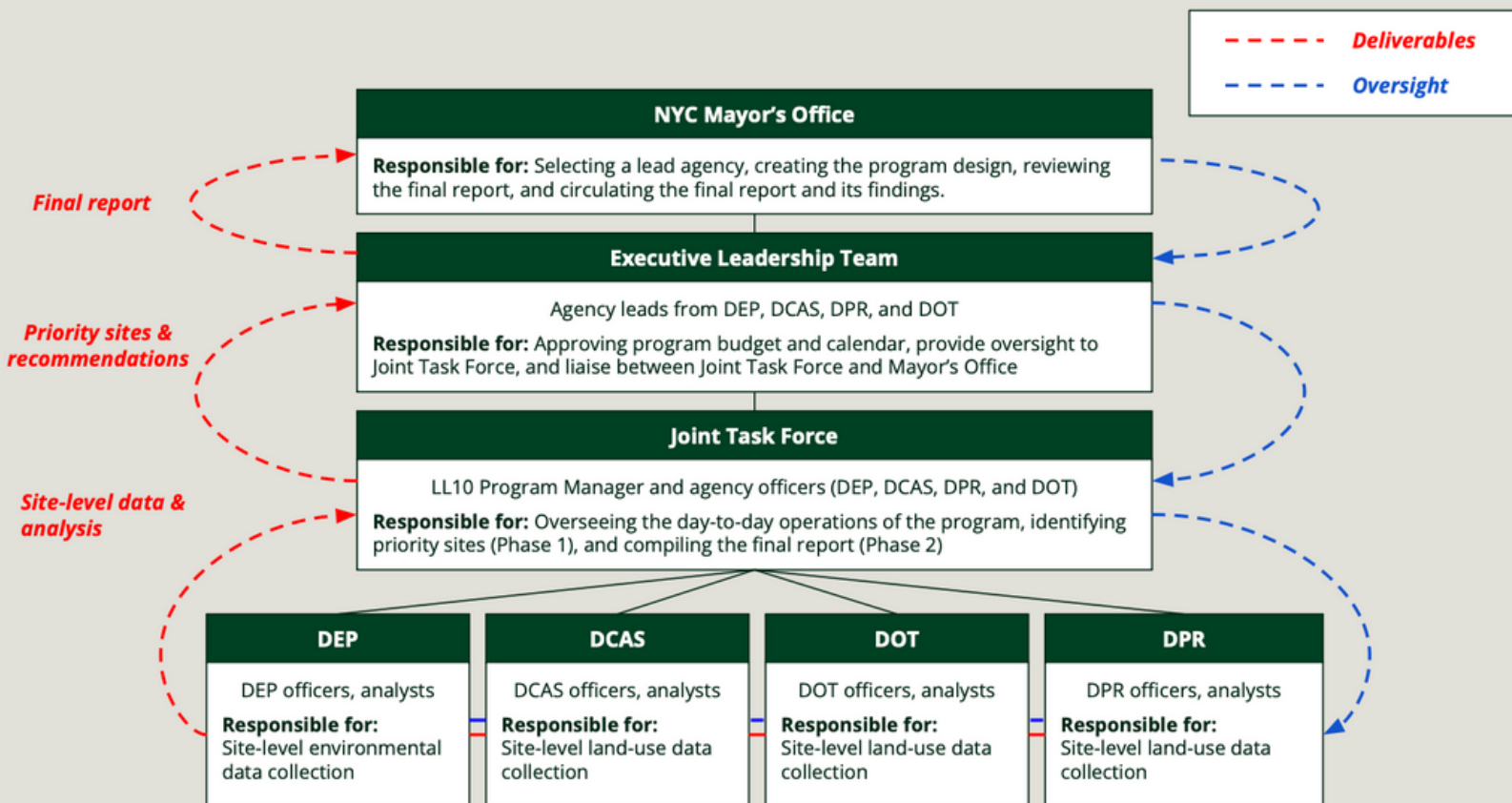
Phase 2:



i. ORGANIZATIONAL STRUCTURE AND PERFORMANCE MANAGEMENT

The proposed program draws on existing staff from all four agencies. It also involves one new hire from DEP, the LL10 Program Manager (LL10 PM). This full-time employee will be responsible for managing all the operational activities of LL10. In addition to overseeing the day-to-day implementation of the program, the LL10 PM will be responsible for the collection of performance measurement data, monitoring, and evaluation to inform performance improvements or revisions to the program's operational structure.

The organizational hierarchy for this program includes **four key groups: the NYC Mayor's Office, the Executive Leadership Team (ELT), the Joint Task Force (JTF) led by the LL10 PM, and key agency staff.** The chart below displays this hierarchy, summarizing the staffing requirements and roles of each group. The deliverables between the groups are illustrated in red, while the oversight is in blue.



The roles and responsibilities of each group in the hierarchy are detailed below.

1. NYC Mayor's Office

The Mayor's Office will provide direction for the program priorities, timeline, and budget. Members will only be involved at the start of the project to engage the ELT for the four agencies (DEP, DCAS, DOT, and DPR), and will create the JTF.



The members of the Mayor’s Office recommended to participate in the execution of LL10 include the Executive Director, Deputy Director of Living Streets & Public Spaces, and a Senior Policy Advisor.

The responsibilities include, but are not limited to:

- Selecting a lead agency;
- Creating the program design;
- Reviewing the final report; and
- Circulating the final report and its findings.

2. Executive Leadership Team

The ELT will determine how cross-agency collaboration will take place and will report directly to the Mayor’s Office. They will oversee the JTF, but will only be engaged on important milestones, such as the completion of a Phase in the recommended phased approach, or the submission of the Final Report to the Mayor’s Office.

The team will consist of the Commissioners, Deputy Commissioners, and Directors of the respective department from DEP, DCAS, DOT, and DPR. The DEP Commissioner will lead this group, which will consist of the following staff:

DEP	DCAS
1. Commissioner 2. Deputy Commissioner, Equity and Justice 3. Director, Division of Operations 4. LL10 Program Manager	1. Commissioner 2. Deputy Commissioner, Real Est. Services
DOT	DPR
1. Commissioner 2. Deputy Commissioner, Transportation Planning & Mgmt.	1. Commissioner 2. Deputy Commissioner, Environment and Planning



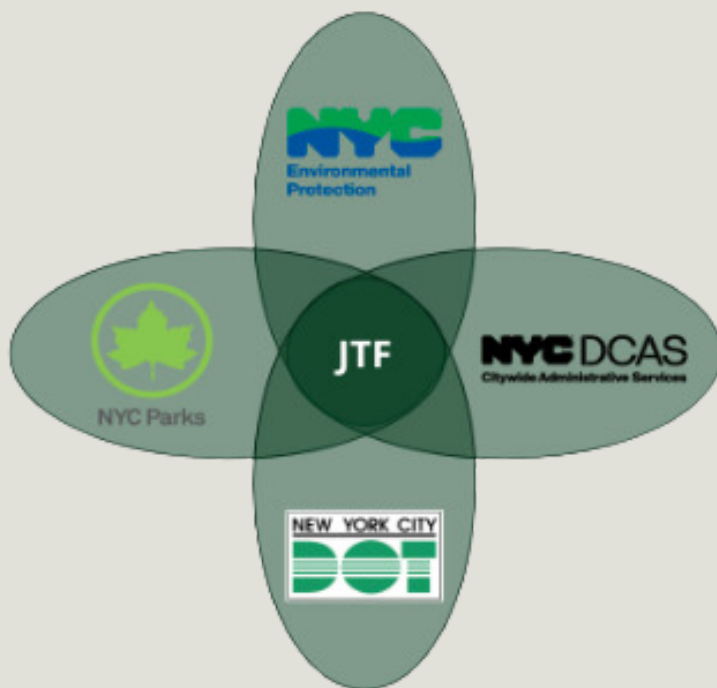
The lead agency, DEP, has two additional members, including an Equity and Justice Deputy Commissioner, who are engaged to ensure environmental justice is at the forefront of all decisions pertaining to LL10. Both staff members will also sit on the Joint Task Force.

The responsibilities include, but are not limited to:

- Approving program budget and calendar;
- Providing oversight to Joint Task Force; and
- Liaising between Joint Task Force and Mayor's Office.

3. Joint Task Force

The JTF consists of various agency leads, including the DEP Equity and Justice Deputy Commissioner, the DCAS Director of Asset and Property Management, the DPR Director of Environment and Planning, and the DOT Director of Transportation Planning and Management. The JTF will conduct the day-to-day activities required by LL10. They will meet on a bi-weekly basis and work together to consolidate data between agencies, identify the sites for prioritization, and spearhead the creation of the Final Report.



The will consist of five staff, including the LL10 PM, Deputy Commissioner of Equity and Justice, and Directors from DCAS, DOT, and DPR. The JTF is the group with the smallest number of staff. This structure enables efficient decision making, while minimizing costs for managing the frequent meetings required by LL10.

The responsibilities include, but are not limited to:

- Overseeing the day-to-day operations of the program;
- Identifying priority sites (Phase 1); and
- Compiling the final report (Phase 2).

4. Agency Staff

Agency staff will collect site-level environmental and land-use data for the JTF in Phase 2. Continuous coordination between the 4 agencies is critical, and hence, the LL10 PM role is introduced as the glue that holds everything together. They will be communicating on all activities with the other agencies, such as data requests, as well as reporting progress in the ELT.

The agency staff will vary with respect to the data requirements from the agencies, but will primarily consist of Officers and Analysts. There will be 11 staff from DEP, whereas DCAS, DOT, and DPR will have eight staff each.

See Appendix F for staffing requirements in the organizational hierarchy.



Bronx River Park

(Source: Vasu Jayanthi)

D. OVERVIEW OF THE PROGRAM PHASES

PHASE 1 (JANUARY 1, 2023 - APRIL 30, 2023)



ESTABLISHING THE PROGRAM DESIGN

(JANUARY 2, 2023 - JAN 16, 2023)

In the first two weeks of the year, we assume that the Mayor will select DEP as the lead agency for the program and create a high-level program design based on the EIA. The Mayor will also create a job description for the LL10 PM and begin the recruitment process.



JTF FORMATION AND STRUCTURE FOR PROGRAM DESIGN

(JANUARY 16, 2023 - JANUARY 31, 2023)

The formation of the JTF is a critical first step in creating an operational structure for the LL10 program. The first task in this step would be for DEP's Green Infrastructure Director to finish recruiting and hiring the LL10 PM. Once this hire is complete, the JTF will be fully formed and can establish bi-weekly meetings with the JTF. In its first meeting, the JTF must set and publish KPIs relevant to the program's objectives, which will facilitate program oversight. The NYC Mayor's Office must also establish directives for the LL10 PM to guide the operation of the program. To effectively carry out Phase 1, the JTF must establish a budget that covers the personnel and other-than-personal-services (OTPS) expenses for each task in the Phase. This includes funding for bi-weekly meeting expenses and webpage design fees for the publication of KPIs. Throughout the project's implementation, the LL10 PM and JTF will track key management KPIs, including staffing/Full Time Equivalent requirements and program expenses. This will allow the JTF to assess whether the project needs additional personnel for timely, high-quality site survey and final report completion and track compliance with the overall budget. If additional resources are required, the JTF will submit a request to the ELT. The estimated monthly expenses for the JTF and Program design tasks are approximately \$10,000, resulting in a quarterly budget of around \$30,000.



CONSOLIDATION OF EXISTING DATA

(FEBRUARY 2023)

After the JTF forms and establishes an operational structure for the program, the LL10 PM will collect a list of city-owned vacant lots covered under LL10 from DEP, Parks, DCAS, and DOT. The LL10 PM will then work with directors and analysts from the four agencies to consolidate existing GIS data on flood risk, heat vulnerability, air pollution, and UGI in those sites. The LL10 PM will also work with MOCEJ to flag the sites that fall within EJAs. Data collection and consolidation will involve a preliminary review of existing city-level documents and databases and require software applications such as ArcGIS. This data will inform the JTF's selection of priority sites, which will undergo more resource-intensive, site-level data collection in Phase 2. During this process, staff analysts will consolidate all the relevant data in a Sharepoint database used throughout the first year of operation. The estimated monthly cost of the tools used in this step is approximately \$4,040, with a corresponding quarterly expense of around \$12,120.



ENGAGEMENT SURVEY TO COMMUNITY BOARDS

(MARCH 2023)

LL10 mandates the consideration of community requests in the survey process. To implement this requirement in the first phase, the MOCEJ representative and DEP agency staff will create and send a survey to Community Boards in NYC EJAs to assess communities' desire for additional UGI in their neighborhood. The MOCEJ representative and the DEP staff will review the survey results to identify sites where communities strongly desire UGI, which will inform the site prioritization process. The results of this survey will encourage the JTF to include sites that may have significant community benefits in its list of priority sites, even if the site faces low-to-moderate levels of environmental hazards.



SITE PRIORITIZATION

(MARCH - APRIL 2023)

During site prioritization, the JTF will review the preliminary environmental and community-level data collected in Phase 1 and establish the final list of priority sites for more in-depth data collection in Phase 2. This list will include sites in designated EJAs that are most likely to experience environmental and social benefits from the installation of UGI. The ELT will review and approve the final list of prioritized sites by the end of April 2023. After the sites are confirmed, the JTF and agency staff will draft and print brochures to notify community members and council members about the status of the LL10 program and generate a draft report of survey results describing potential UGI and the feasibility of implementation for the ELT to review. The estimated monthly budget for this step is approximately \$1,500, and the quarterly estimate is around \$4,500.

PHASE 2 (MAY 1, 2023 - DECEMBER 31, 2023)



COLLECTION OF COMMUNITY DATA IN EJA PRIORITY SITES (MAY-JUNE 2023)

To collect more comprehensive data on community preferences in priority sites, the MOCEJ and DEP representatives will conduct dedicated community engagement across the city. For each community in which a priority site is located, city officials from these two agencies will hold a meeting with the relevant Community Board and a town hall with community members. In these convenings, City representatives will share high-level information about the LL10 survey process and objectives (e.g., to reduce stormwater runoff in flood-prone communities), and they will solicit feedback from community members and representatives about their needs and priorities related to UGI. The LL10 PM will then work with analysts across the four agencies to translate notes from each meeting into a memo that includes a community profile and a summary of these needs and priorities. Expenses for this step are substantial and cover items such as renting accessible meeting spaces and travel reimbursements for meeting attendees. Anticipated monthly costs are approximately \$4,500, resulting in a quarterly budget of \$13,500.



SITE LEVEL DATA COLLECTION (JULY-SEPTEMBER 2023)

Over three months, staff members from the four agencies will conduct site-level reviews to collect more granular environmental and land-use data on each priority site. Environmental data may include soil and air quality, CSO frequency, and volume of water. Collection of land-use data will involve surveying lots' underground infrastructure (e.g., sewage systems and electrical lines) and surface-level infrastructure (e.g., nearby buildings, roads, and sidewalk infrastructure). Agency analysts will submit collected data to the JTF, which will store and manage that data in a Sharepoint database. The OTPS budget for this step will cover the specialized equipment required for data collection and travel expenses for agency staff. The estimated monthly cost is approximately \$9,000, and the corresponding quarterly expense is around \$27,000.



DRAFT REPORT COMPILATION & CIRCULATION

(OCTOBER-DECEMBER 2023)

Finally, the JTF will analyze the findings from site-level surveys and community engagement efforts and propose recommendations on the suitability of each site for different forms of UGI. These recommendations will consider the cost, feasibility, and estimated timeline for installing UGI on each site. They will also note the potential environmental and social impacts of different UGI installations in each site (e.g., the potential for a bioswale with specific characteristics to reduce flooding in a given site). Agency analysts will also produce a public-facing interactive GIS map with site-level environmental and land-use data to be included in the final report. The JTF will compile their main findings and recommendations for each site into a draft report, which the LL10 PM will submit to the ELT in early December. The ELT will review the report before publishing it online for public comment and circulating it internally for broader feedback from city agencies.



POST-UGI IMPLEMENTATION REPORTING

To assess the long-term impact of installed UGI in addressing stormwater runoff, the urban heat island effect, and air pollution, as well its success in remedying environmental injustices, post-UGI installation reporting should track both environmental and social KPIs. This long-term reporting will take the form of annual publications aligned with those of the City's existing sustainability initiatives. Potential environmental-focused KPIs include the change in stormwater runoff volume, reduction of CSOs, and change in local ambient air temperature resulting from UGI. To track the social impact on EJAs, reporting should include metrics on changes in access to UGI within EJAs, as well as a community survey assessing residents' perception of the impact to their communities.

CONCLUSION

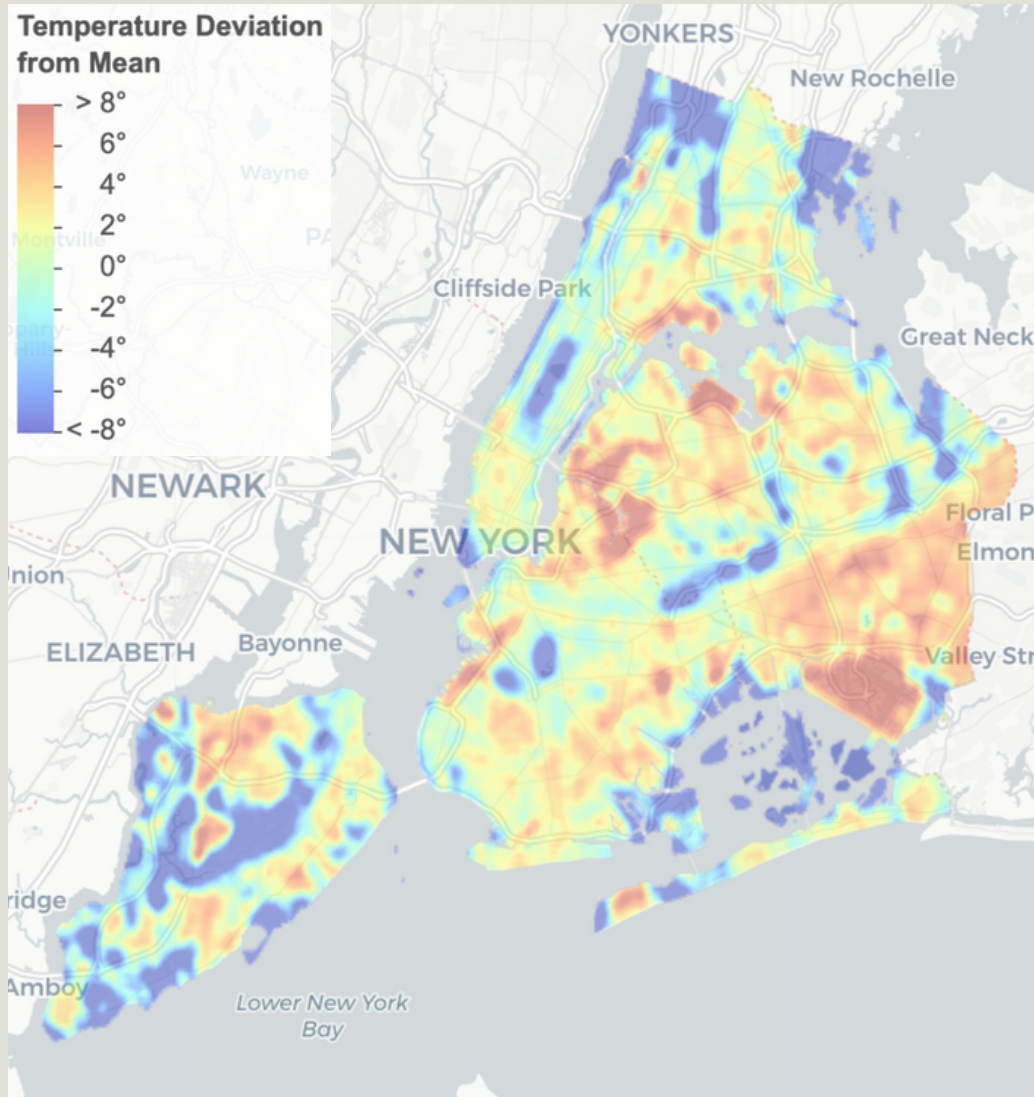
The introduction of Local Law 10 (LL10) in response to environmental challenges, particularly in Environmental Justice Areas (EJAs), represents a pivotal step for New York City. Addressing complex issues like stormwater runoff and the urban heat island effect demanded a comprehensive approach to urban green infrastructure (UGI) deployment. LL10's integration into the broader framework of PlaNYC, the city's fundamental environmental and sustainability initiatives, and existing policies, such as Local Laws 6013 and 6414 of 2017, underscores a decade-long commitment to rectifying environmental justice and enhancing green infrastructure.

LL10 introduces a strategic framework to tackle environmental issues in EJAs through targeted UGI deployment. With a focus on short-to-medium-term UGI expansion to enhance NYC's long-term resilience, LL10 mandates a lead agency to survey and assess city-owned vacant lots for UGI suitability. Among our three program design options – Land Size Approach, Environmental Impact Approach, and Social/Community Impact Approach – we selected the Environmental Impact Approach. In this approach, DEP leads an in-depth survey process focusing on sites with the highest environmental burden, prioritizing harm reduction, leveraging existing city resources, and establishing clear performance indicators.

The proposed program design ensures a structured and coordinated implementation of the law, capitalizing on the unique expertise across DEP, DOT, DCAS, and DPR. Establishing a Joint Task Force ensures efficient day-to-day operations and allows for thorough data consolidation to guide the site prioritization process. The final report to be submitted to the Mayor in April 2024, a deliverable mandated by the bill, will be circulated to internal and external stakeholders for feedback in order to better incorporate diverse perspectives and community input. Ultimately, this report will be an important tool for Community Boards and City Councilmembers to advocate for capital funding for UGI in their represented neighborhoods, address LL10's mandates and maximize the use of existing city resources for a comprehensive solution to environmental challenges in environmental justice areas.

APPENDIX

Appendix A: Urban Heat Island Effect in NYC



Source: Columbia Climate School

APPENDIX

Appendix B: Text of Local Law 10 of 2023

LOCAL LAWS OF THE CITY OF NEW YORK FOR THE YEAR 2023

No. 10

By Council Members Krishnan, Louis, Yeger, Riley, Restler, Hanif, Hudson, Ung, Won, Gutiérrez, Holden, Gennaro, Menin, Narcisse, Brannan, Cabán, Bottcher, Abreu, BrooksPowers, Farías, Velázquez, De La Rosa, Avilés, Nurse, Ayala, Joseph, Brewer, Schulman, Powers, Rivera, Marte, Dinowitz, Ossé, Williams, Mealy, Moya, Hanks, Stevens and Carr

A LOCAL LAW

In relation to a survey to determine the feasibility of creating small parks and green spaces on public streets with dead ends and vacant city-owned land near streets with dead ends

Be it enacted by the Council as follows:

Section 1. An agency or office designated by the mayor, in consultation with the department of environmental protection, the department of parks and recreation, the department of transportation, the department of citywide administrative services and any other appropriate agency, shall review sites, owned by the city of New York in residential zones in each borough, on streets with dead ends and vacant land in close proximity to such streets, and land that abuts highway entrances, underpasses and exits, that are suitable for the planting of trees or other vegetation, or for establishing bioswales, small parks or other green spaces. Such designated agency or office shall develop a methodology to identify which such sites to review, provided that in identifying such sites, such agency considers requests from council members, community boards and members of the public to review a site, and prioritizes the review of identified sites that are in environmental justice areas, as defined in section 3-1001 of the administrative code of the city of New York.

APPENDIX

Appendix B: Text of Local Law 10 of 2023

§ 2. No later than April 1, 2024, the designated agency shall submit to the mayor and speaker of the council a report of all sites reviewed pursuant to section one of this local law. Such report shall also include: an analysis of the condition of each such site; the feasibility of planting trees or other vegetation or the installation of bioswales, small parks or other green spaces; a description of the necessary steps associated with installing any such feature; an estimated length of time that would be needed to install such features; and an estimate of the overall cost to do so.

§ 3. This local law takes effect immediately.

THE CITY OF NEW YORK, OFFICE OF THE CITY CLERK, s.s.:

I hereby certify that the foregoing is a true copy of a local law of The City of New York, passed by the Council on December 21, 2022 and returned unsigned by the Mayor on January 20, 2023.

MICHAEL M. McSWEENEY, City Clerk, Clerk of the Council.

CERTIFICATION OF CORPORATION COUNSEL

I hereby certify that the form of the enclosed local law (Local Law No. 10 of 2023, Council Int. No. 680-A of 2022) to be filed with the Secretary of State contains the correct text of the local law passed by the New York City Council, presented to the Mayor and neither approved nor disapproved within thirty days thereafter.

STEPHEN LOUIS, Acting Corporation Counsel.

APPENDIX

Appendix C: Program Design Selection Criteria

Data Availability: This criterion considers the ability of the leading agency to rely on internal personnel and previously collected data to complete the program design methodology option selected. Due to current budget cuts and expected hiring freezes, the leading agency chosen will likely have fewer resources to outsource external personnel. It will mostly use accessible data they have already acquired through previous survey efforts. Therefore, a program design methodology requiring less information outsourcing would be favored over others.

Reduction of Environmental Harm: This criterion considers that UGI installation reduces exposure to environmental hazards. A program design methodology that provides the best opportunity to collect quantifiable metrics for environmental harm reduction to citizens would be favored over others as it allows better measurement of the success and effectiveness of green infrastructure.

Conflicting Community Priorities: This criterion considers various other uses for vacant land that communities may rather have than UGI. While green spaces are highlighted for their multifunctional community benefits, environmental justice groups and community advocates have cited other ways to provide communities with these resources, such as cooling centers and affordable housing options. Therefore, a program design methodology that explicitly prioritizes these community values would be favored over others.

Displacement Risk: This criterion considers the risk that increased UGI development can have in low-income or minority communities through green gentrification. Increased green space has led to increased housing prices in several cities, including NYC, making it difficult for those previously living in the area to remain. Residents of these areas also report decreased feelings of belongingness in their communities post-UGI installation.² Therefore, a program design methodology that has the lowest probability of influencing current community members to leave due to housing inflation or decreased community belonging would be favored over others.

Alignment with Existing Funding Priority: As previously mentioned, current funding for UGI installation is motivated by the city's obligations to abide by state

APPENDIX

Appendix C: Program Design Selection Criteria

regulations and the Clean Water Act. As a result, current UGI initiatives prioritize funding for solutions to stormwater management.³ While a budget was not explicitly defined in LL10, its completion will likely rely on existing resources, databases, and a program design methodology aligned with UGI funding. UGI, related to stormwater management, has received lots of funding, and in 2022, NYC DEP reported a commitment of over \$1.09 billion since 2012.⁴ Therefore, a program design methodology aligned with current UGI funding opportunities would be favored over others.

APPENDIX

Appendix D: Criteria Scoring Scale

Data Availability

- 1 = No data available and/or requires the largest need for additional project personnel from outside of leading agency
- 2 = Requires a moderate amount of data outsourcing and need for additional project personnel from outside of leading agency
- 3 = Requires a decreased amount of data outsourcing and need for additional project personnel from outside of leading agency
- 4 = Requires the least amount of data outsourcing and minimal needs for additional project from personnel outside of leading agency

Reduction of Environmental Harm

- 1 = Extremely difficult to collect clear and measurable metrics of environmental harm reduction
- 2 = May prove very difficult to collect clear and measurable metrics of environmental harm reduction
- 3 = There is less difficulty to collect clear and measurable metrics of environmental harm reduction
- 4 = Provides clear opportunity to collect definitive and/or measurable metrics of environmental harm reduction

Conflicting Community Priorities

- 1 = Does not address defined community priorities and alternative community uses for vacant lots
- 2 = Minimally addresses defined community priorities and alternative community uses for vacant lots
- 3 = Moderately addresses defined community priorities and alternative community uses for vacant lots
- 4 = Fully addresses defined community priorities and alternative community uses for vacant lots

Displacement Risk

- 1 = High probability of displacement for current members of EJAs
- 2 = Moderately high probability of displacement for current members of EJAs
- 3 = Low probability of displacement for current members of EJAs
- 4 = Lowest probability of displacement for current members of EJAs

APPENDIX

Appendix D: Criteria Scoring Scale

Alignment with an existing funding priority

- 1 = No evidence that components of the approach aligns with an existing funding priorities
- 2 = One component of the approach alignment with an existing funding priorities
- 3 = More than one components of approach align with an existing funding priorities
- 4 = All components of approach align with existing funding priorities

APPENDIX

Appendix E: Program Design Scorecard

	Criteria					
	Data Availability	Reduction of Environmental Harm	Conflicting Community Priorities	Displacement Risk	Alignment with Existing Funding Priority	Average Score
Option 1: Land Size Approach	4	3	3	1	3	2.8
Option 2: Environmental Impact Approach	4	4	2	2	4	3.2
Option 3: Social Impact and Community Priority Approach	2	2	4	4	1	2.6

APPENDIX

Appendix F: Program Staffing Requirements

	Total Staff	MO	DEP	DPR	DOT	DCAS
NYC Mayor's Office	3	3				
LL10 Executive Leadership Team	10		4	2	2	2
LL10 Joint Task Force	5		2	1	1	1
Program Staff in Agencies	11		8	5	5	5
TOTAL STAFF	27	3	12	8	8	8

APPENDIX

Appendix G: Annual Program Budget

Annual Budget Overall	
Phase I Staffing Budget	\$101,370
Phase II Staffing Budget	\$505,711
Annual Staffing Budget	\$607,081
Phase I OTPS Budget	\$71,484
Phase II OTPS Budget	\$151,800
Annual OTPS Budget	\$223,284
Annual Budget (with 15% contingency & benefits) : \$830,365	

Appendix H: Master Calendar

Calendar KEY	
Multiple Agencies	
DEP	
DPR	
DOT	
DCAS	
MOCEJ	
Limited Work Week (due to Federal Holidays)	
Critical Activities for the Program Design	Bolded green text

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