

Governors Island: The Overlooked Overlap, Navigating Mistakes Between Urban Voids and Complementary Spaces

Nima Shiva

Pratt Institute, Brighton, MA, United States of America (USA)

DOI: <https://doi.org/10.51244/IJRSI.2025.12040139>

Received: 18 March 2025; Accepted: 19 April 2025; Published: 21 May 2025

ABSTRACT

Urban voids and complementary spaces wield a significant influence on urban environments, yet their precise definitions and implications often remain elusive. This study aims to clarify the distinctions between these concepts while highlighting their shared attributes and the potential for harmonious coexistence. It emphasizes the importance of accurately recognizing and comprehending their intrinsic character for successful contextual interventions. Using Governors Island as a case study, we delve into its rich history, showcasing its evolution from a military stronghold to a versatile space within New York City. This historical exploration challenges the conventional urban void perception, as the island has continuously adapted and thrived throughout different historical epochs. Our analysis extends beyond history, emphasizing Governors Island's potential as a complementary space for enhanced investment. By examining key factors in this study, we unveil latent opportunities for optimized utilization and development within this unique urban space. This research underscores the need for a nuanced understanding of urban voids and complementary spaces, advocating for informed and deliberate approaches to urban development. It serves as a call to action, encouraging stakeholders to recognize the untapped potential within urban landscapes and redefine the future of our cities.

Keywords: Complementary spaces, Development, Governors Island, Urban environment, Urban fabrics, Urban voids

INTRODUCTION

Urban areas are complex systems that require critical consideration and scientific assumptions for assessment (Sileryte et al. 2017). A coherent space consists of a set of full and empty spaces and these empty spaces are mistakenly considered urban voids. Without distinguishing backgrounds, climates, and natural conditions, the architecture's internal logic cannot be recognizable, and architecture lacks any identity (Shiva and Ali Asgharzadeh 2019). Likewise, urban fabric as a part of architecture refers to the physical structure and layout of the city, including buildings, streets, public spaces, and transportation networks (Lynch 1981). Spatial syntax, on the other hand, refers to the relationships and connections between these urban elements and how they shape the perception and experience of the city (Hillier 2004). Negative space or voids are the empty or unoccupied spaces within the urban fabric that can have a significant impact on the urban environment but are often overlooked or dismissed (Carmona 2010). In recent decades, urban studies have extensively explored various aspects of urban public spaces, focusing on common urban space structures, such as nodes, squares, and gardens. However, this research concentration has often bypassed the in-depth examination of urban voids, particularly urban buffer zones, and their potential to fulfill users' needs. Consequently, these urban void spaces have remained largely neglected in the urban planning and design discourse. Despite the abundance of data about public spaces, a comprehensive framework has yet to be established that precisely defines the intricate relationship between the design components of urban voids, users' needs, and technological installations, and their collective impact on urban revitalization. The research problem becomes apparent when we consider an island adjacent to a densely populated metropolis, such as New York City. Although this island, known as Governors Island, may initially appear as an urban void due to its distinct separation from the bustling cityscape, it has never truly conformed to the traditional urban void archetype. Even during periods of military use, Governors Island remained an active and purposeful space. Consequently, the research problem at hand involves investigating the unique characteristics of Governors Island and comprehending its role within

the urban fabric of New York City. This entails examining whether the island can be classified as an urban void or a complementary space and understanding how its historical transformations have shaped its current identity.

In this study, the empty spaces are considered complementary spaces due to the belonging of architecture to culture and can be identified only in the background of native history, beliefs, rituals, and traditions. In fact, it should be noted that the empty spaces are complementary to full spaces. These spaces have been formed throughout history as well as full space. As a result, they have a background and help the concept of other peripheral spaces. Their presence has formed a dense and homogeneous texture in history. Complementary spaces support each other and give each other authentic and effective as well as full spaces. To have a better understanding of the meaning of Urban Voids and complementary spaces, Figure 1 provided some definitions and prerequisites in separate chapters.

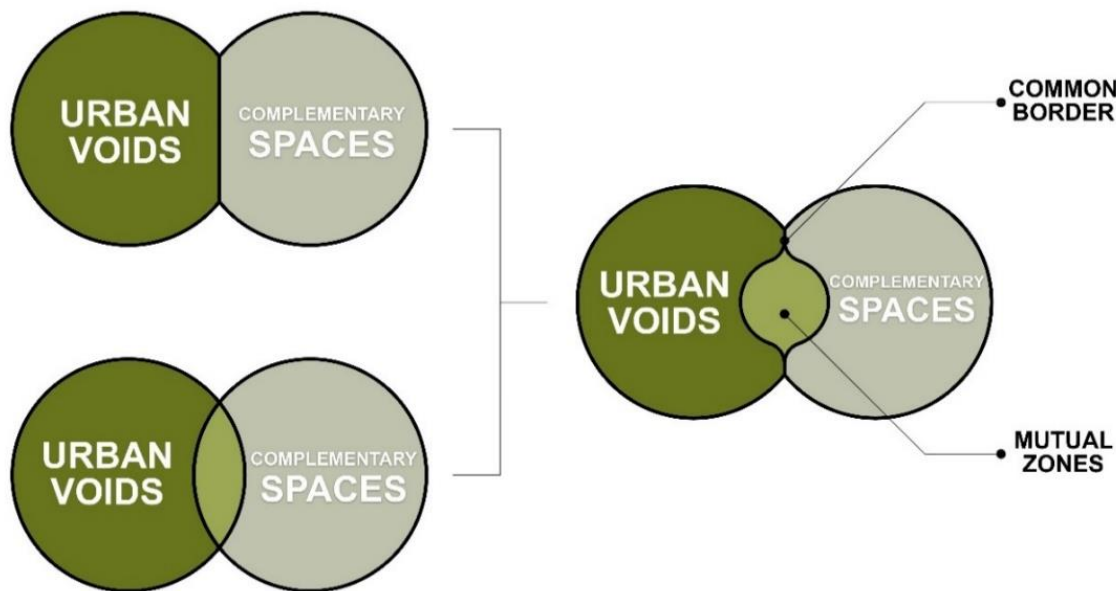


Fig 1. The main ideas and concepts

Urban Voids

Urban voids are neglected or abandoned areas within urban and suburban landscapes, often marked by decay, neglect, and inactivity. They manifest as vacant lots, derelict buildings, or underutilized spaces, typically viewed as urban blemishes. These voids hold the potential for revitalization efforts, yet they are commonly perceived as problematic elements in the urban environment. Several factors contribute to the emergence of urban voids, including economic downturns, urban expansion, and demographic shifts (2010). The importance of these voids must be determined to understand their potential contribution to a city's social, economic, and environmental qualities. They hurt the city's image, cause a bad visual image, and may be a result of a lack of resources for strategic improvements (Thawaba et al. 2016). According to Habermas, urban spaces symbolize a cultural contrast, evolving from the interplay of government, community, local economies, and modern notions of private property. This intricate relationship between urban public spaces and social life has accumulated over time, comprising numerous interconnected layers, each laden with memories and user devotion. Within this mosaic, some zones lack clear purpose and are often overlooked, typically situated between residential and commercial sectors. When multiple development projects converge, unplanned empty spaces materialize, such as vacant lots and desolate areas. Urban voids can exert adverse effects on their surroundings, including diminishing property values, elevating crime rates, and eroding social cohesion (Bates et al. 2008). As can be observed in Figure 2, the transformation of these voids into neglected, often crime-ridden spaces, like those beneath bridges, remains a perplexing phenomenon.



Fig 2. Migrants are seen at a makeshift camp in an underground station in front of the Keleti railway station in Budapest, Hungary. (Source: www.nytimes.com)

The physical characteristics of urban voids encompass a lack of defining structures within the urban landscape, resulting in a perception of emptiness and disconnection from the surrounding environment. These voids manifest in diverse forms, including vacant lots, abandoned buildings, empty plazas, and neglected infrastructure. According to Jon Lang's book, "Urban Design: A Typology of Procedures and Products" (Lang 2006), urban voids can be classified into various physical types which are explained in Table 1.

Table 1. Physical types of urban voids

Physical types of urban voids	
Vacant lots	Unused parcels of land, often stemming from abandonment, demolition, or a lack of development.
Abandoned buildings	Structures left vacant due to economic or social challenges.
Derelict industrial sites	Located on urban outskirts, these sites are abandoned due to economic shifts or changes in industry.
Underutilized public spaces	Parks and plazas that are poorly maintained or unused.
Unused infrastructure	Abandoned railway lines or disused highways.

Urban voids have a multifaceted impact on their surrounding environment, influencing ecological, economic, public safety, and public health outcomes. The effects, whether positive or negative, are highly dependent on how these spaces are managed and redeveloped. For instance, urban voids can enhance ecological diversity by providing habitats for plants and animals that are rare in built environments (Gehl 2013). When repurposed effectively, they can be transformed into innovative urban spaces that enrich social, cultural, and economic vitality (Carmona 2010). Such redevelopment efforts can boost local economies by creating jobs, raising property values, and integrating green infrastructure to mitigate urban heat islands and improve air and water quality (Economics and 2012; Cities and 1961 2019).

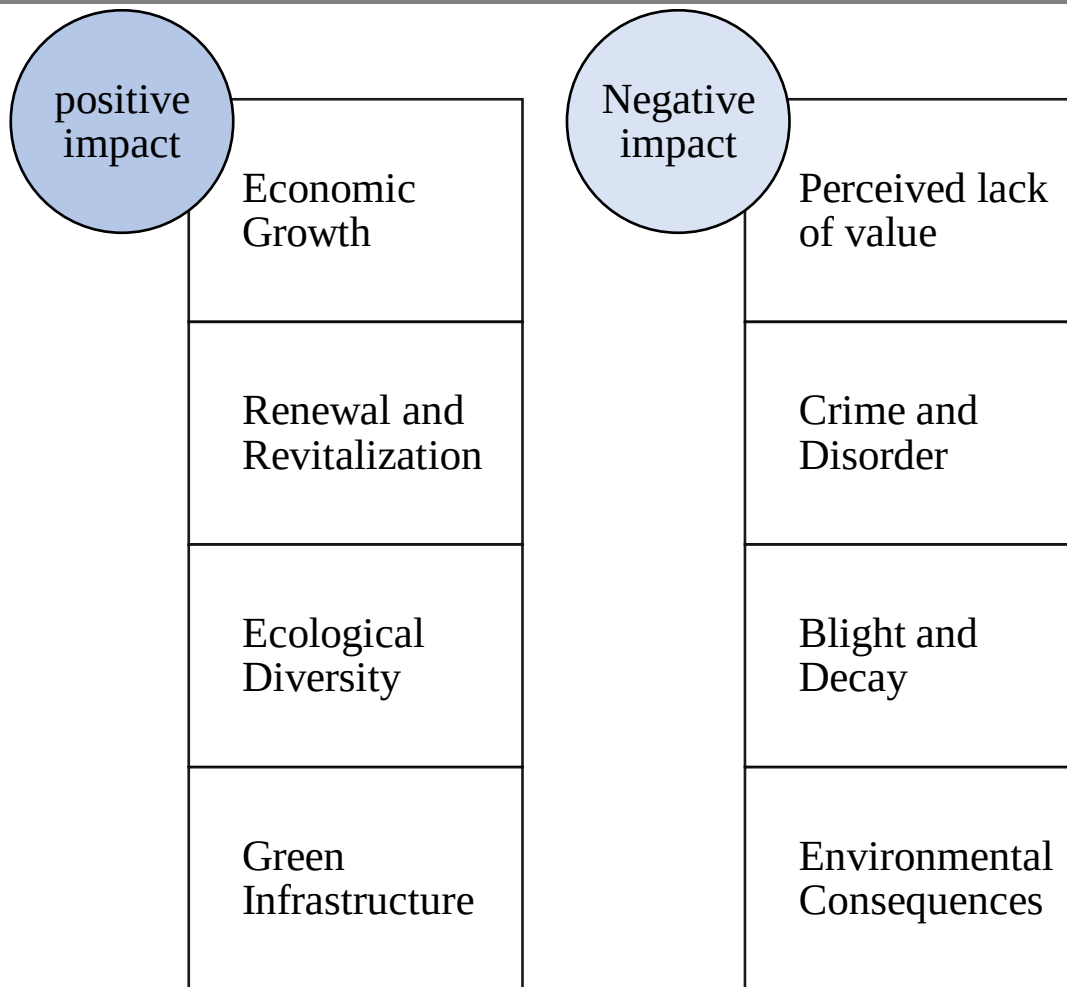


Fig 3. Positive and Negative impacts of Urban voids

However, unmanaged urban voids often have detrimental effects. They can signal neglect, disinvestment, and blight, which depress property values and increase crime rates in nearby areas (Bates et al. 2008). Abandoned spaces frequently become hotspots for illicit activities like drug trafficking, prostitution, and vandalism, jeopardizing public safety (Kondo et al.). These voids also exacerbate environmental issues, contributing to urban heat islands, stormwater runoff, pollution, and hazardous material release (Kondo et al.; Wolch et al. 2014). The lack of safe, accessible spaces can negatively affect public health, contributing to higher rates of asthma, obesity, and mental health challenges (Wolch et al. 2014).

Urban voids are often regarded as liabilities by property owners and developers due to their association with decay and crime. This perception can further accelerate the decline of the surrounding urban environment, reinforcing their status as neglected and problematic spaces.

General Inertia in the Transformation of Urban Voids

Urban voids are complex phenomena, shaped by overlapping socio-economic, historical, and governance-related challenges. The following are the key factors causing their persistence:

1. Economic Barriers:

- Limited investment and financial incentives often result in neglect. Urban voids, especially in high-cost cities, like New York, face challenges in attracting funding for redevelopment, particularly when the perceived return on investment is low or uncertain.
- Unequal resource allocation prioritizes more visible urban spaces, leaving urban voids overlooked in city planning efforts.

2. Governance and Institutional Challenges:

- Fragmented governance structures can prevent coordinated action to repurpose urban voids. For example, Governors Island's transformation was delayed due to years of bureaucratic negotiations among federal, state, and municipal bodies.
- Inconsistent land-use policies and zoning restrictions hinder adaptive reuse or innovative redevelopment of void spaces.

3. Socio-Cultural Perceptions:

- The negative connotations surrounding urban voids-associating them with decay, crime, or blight-discourage public and private stakeholders from investing in their transformation.
- A lack of community engagement often leads to mistrust or disinterest in proposed redevelopment efforts.

4. Physical and Spatial Constraints:

- Accessibility issues, such as Governors Island's reliance on ferries, contribute to its perception as a disconnected space, making transformation efforts less appealing or viable.
- Certain voids face ecological or structural barriers, such as contamination, historical preservation requirements, or costly demolition needs, which prolong inaction.

5. Lack of Vision or Framework:

- Traditional planning approaches often fail to recognize the potential of urban voids as complementary spaces. Misclassification or misunderstanding of their role in the urban fabric leads to missed opportunities for creative reuse, as demonstrated in the hesitation to leverage Governors Island's unique assets until recent years.

Complementary Spaces

Complementary spaces are defined as the spaces that provide balance and support to other spaces and help define positive spaces (Carmona 2010). These spaces can be found in any environment, from natural landscapes to urban areas. Complementary spaces are the areas that exist in between or adjacent to other spaces and give those areas meaning and enhance their qualities. They can be full or empty, permanent, or temporary, and they can be designed or emerge organically (Cities and 1961 2019). For instance, a public plaza can be a complementary space to a nearby building, emphasizing its importance and providing a place for people to gather and interact (Latham et al. 2019). One example of a case study related to this sentence is the redesign of Union Square in New York City. The redesign aimed to create a more inviting and functional public space that would complement the surrounding buildings and attract more people to the area. The new design included widened sidewalks, new seating areas, improved lighting, and more greenery. The redesign was based on principles of human-centric design and aimed to create a space that would be more comfortable, accessible, and enjoyable for the people who use it (Latham et al. 2019). In fact, it should be noted that the empty spaces are complementary to full spaces. These spaces have been formed throughout history as well as other spaces. As a result, they have a background and help the concept of other peripheral spaces. Their presence has formed a dense and homogeneous texture in history. These spaces complement and enhance one another, creating a sense of authenticity and effectiveness. As a simple and rudimentary example, in the pattern of an Iranian carpet (Figure 4), the design of the flowers is alongside the empty spaces that make sense, and if we eliminate those empty spaces between them, we will face a severe turbulence and a compressor of the paintings. In fact, those spaces give meaning, geometry, and contrast, as well as any other aesthetic aspects to the whole product.



Fig 4. Persian old carpet (Source: www.bbc.com)

Complementary spaces, on the other hand, are empty or open spaces within the urban fabric that are intentionally designed and utilized to complement the surrounding built environment. Complementary spaces can take many forms, such as plazas, courtyards, parks, or green spaces, and can serve a variety of functions, such as providing social gathering spaces, enhancing pedestrian connectivity, or providing ecological benefits (Carr 1992). Complementary spaces are an important aspect of urban design and planning, as they can enhance the quality of urban life and promote sustainable development ([CSL STYLE ERROR: reference with no printed form.]). However, they can also face challenges, such as conflicting land uses, limited funding, and competing priorities (Latham et al. 2019).

Complementary spaces play an essential role in enhancing urban life, enriching the built environment, and promoting social and cultural interaction. They serve as transition zones, buffer areas, and social hubs, contributing positively to the overall quality of urban spaces. Complementary spaces, integral to urban design, serve as enhancers of neighboring spaces and contribute to the creation of a distinct sense of place. They bridge connections between areas, introduce diversity and interest to the urban landscape, and elevate the overall livability of a city (Carmona 2010). Table 2 demonstrates the Positive Roles of Complementary Spaces.

Table 2. Positive Roles of Complementary Spaces

Positive Roles of Complementary Spaces	
Visual Appeal	Enhances aesthetics and provides opportunities for artistic expression.
Environmental Benefits	Offer environmental advantages by regulating temperatures, absorbing pollutants, and supporting biodiversity and promote social well-being and relaxation.
Enhancing Adjacent Spaces	Improve neighboring areas and encouraging social interaction and cultural identity and active transportation while supporting sustainability.
Transition and Buffer Zones	Ease transitions between environments and act as buffers to reduce conflicts between land uses. Serve as social hubs and increase urban green space.

RESEARCH METHODOLOGY

This study not only enhances the understanding of urban voids and complementary spaces but also emphasizes Governors Island as a significant case study. The resulting recommendations aim to optimize the utilization of

these urban elements, contributing to the creation of a vibrant and resilient urban environment. Governors Island's strategic location near New York City and New Jersey presents a unique opportunity to address the unmet needs of these neighboring regions, making it a crucial asset within the urban landscape. Furthermore, it is essential to acknowledge Pratt Institute's investment and support for this research. The institution's commitment to advancing scholarly pursuits is evident in its provision of resources and facilities, such as House Number 14, for research and exhibition purposes. This commitment underscores the collaboration between academia and research, emphasizing the study's importance within the broader academic community.

Case Study

Governors Island is a 172-acre island located in New York Harbor that has a rich history and a unique role in the urban fabric of New York City.

Underutilization

Governors Island, a 172-acre site located in New York Harbor, has historically faced significant underutilization. For many years, the island served as a military base and was inaccessible to the public, effectively isolating it from New York City's urban fabric. Its strategic location and potential were overlooked, and even after its transfer to the City of New York in 2003, its full value remained unrealized. The physical separation from Manhattan, necessitating ferry access, further contributed to its underuse, reinforcing its perception as an urban void. Despite its proximity to a densely populated metropolis, the island was largely viewed as a space without purpose, unable to integrate seamlessly into the city's functional and cultural landscape. The island was originally used as a military base and was off-limits to the public for many years. In 2003, it was transferred to the control of the City of New York and has since been transformed into a public park and cultural center. Nolan Park is a historic district located on this Island, and it contains a collection of 19th-century homes that were originally built for officers in the U.S. Army. These homes are now used for a variety of purposes, including housing for artists, writers, and other cultural organizations. House Number 14 is one of the homes located in Nolan Park, and it is a particularly interesting example of the historic architecture found on the island. The house was built in 1870 and was originally used as the quarters for the Commanding Officer of the U.S. Army's First Battalion. Table 3 depicts the important events during the history of Governors Island.

Table 3. Important events during the history of Governors Island (source: www.govisland.com)

Period	Key events
Indigenous (~1625)	- Named "Paggank" by Lenape due to nut trees - Seasonal fishing camp for indigenous tribes
Colonial (1625~1700)	- Dutch settlers arrive, called it "Noten Eylandt" - Established a fort and sawmill - Control shifted between Dutch and English
Military (1700~1800)	- Island fortified for defensive purposes - Renamed "Governors Island" for British governors - Played a key role during the American Revolution - Used as British military headquarters - Became known as "Nuttan Island" due to British mispronunciation
Industrialization (1800~1900)	- Fortifications expanded during the War of 1812 - Ownership transferred from British to the U.S. government - Construction of Fort Jay, Castle Williams, and South Battery - Used as a deterrent during the War of 1812
Modernization	- Significant expansion with fill from Lexington Avenue Subway

(1900~1985)	excavation - Served as a vital military headquarters during World Wars I and II - Shift from a military post to an army headquarters
Development (1985~2007)	- Initiation of design competition for new parks and public space - Transformation and restoration of historical buildings and landmarks - Handover to the people of New York with the creation of the Trust for Governors Island
Present Day (2007~)	- Opening of the island to the public - Ongoing development and improvements, including The Hills and expanded park spaces - Plans for the Center for Climate Solutions - Year-round accessibility and increased public usage This expanded table provides a comprehensive overview of the history of Governors Island, including additional details from the text you provided.

Unique Function

Governors Island’s transformation began with a reevaluation of its potential as a unique urban space. Unlike other public spaces in New York City, the island offers an expansive, open environment with unparalleled views of the Manhattan skyline and New York Harbor. This distinct function differentiates it from traditional urban parks, providing a rare combination of tranquility and accessibility in a bustling metropolitan area. Its large-scale green spaces offer essential recreational opportunities for residents and visitors, serving as a green oasis that balances the urban density of New York City. The island’s distinctive character has positioned it as a complementary space rather than a neglected void, fulfilling a need for open, adaptable areas within the urban context (Figure 5). The island is in New York Harbor and can only be accessed by ferry. This means that it is physically disconnected from the surrounding urban fabric and can be viewed as an isolated space. The separation of Governors Island from the city also contributes to a sense of disconnection between the island and the city’s urban context. Unlike other parks and public spaces within the city, which are integrated into the surrounding urban fabric, Governors Island is physically and visually removed from the city. This can lead to a perception that the island is not part of the city, and therefore not an essential component of the urban landscape.



Fig 5. Strategic Location of Governors Island (source: www.circulareconomymfg.com)

Cultural Programming

Governors Island has become a hub for cultural activity, further solidifying its identity as a vital complementary space. It hosts an array of events, including art exhibitions, music festivals, and public programs, which draw diverse audiences and encourage social engagement. The adaptive reuse of historical structures, such as the buildings in Nolan Park, has supported these cultural initiatives, housing artists, writers, and organizations that contribute to the island's vibrancy. This programming transforms the island into more than a recreational space—it becomes a cultural and creative destination that enriches New York City's urban experience. By leveraging its historical and geographical assets, Governors Island has successfully transitioned from an underutilized site to a thriving cultural landmark. This underutilization could be seen as evidence of its status as an urban void.

Unique function: Governors Island provides a unique function that is not found elsewhere in the city—a large, open public park with stunning views of the skyline and harbor. This unique function makes it a complementary space that provides much-needed green space and recreational opportunities to the city.

Cultural programming: Governors Island is also a hub of cultural activity, hosting a variety of events and programs that contribute to the cultural vibrancy of the city. This cultural programming further enhances its status as a complementary space.

Governors Island exemplifies how overcoming inertia involves deliberate, multi-dimensional strategies:

- **Reconceptualizing Value:** Reframing the island not as an inaccessible void but as a cultural and ecological complement to New York City helped attract investment and public interest.
- **Institutional Coordination:** Establishing the Trust for Governors Island unified stakeholders and facilitated cohesive decision-making.
- **Innovative Programming:** By introducing cultural, recreational, and sustainable initiatives, the island transitioned from a neglected space to a vital community resource.

Governors Island's evolution underscores that addressing the inertia around urban voids requires clear frameworks that integrate historical identity, stakeholder collaboration, and adaptive reuse strategies.

RESULTS

Urban voids refer to underutilized, often vacant, or abandoned areas in urban environments. These spaces lack a clear purpose and may have negative connotations, such as crime or blight. Examples include abandoned buildings, vacant lots, and derelict properties. Urban voids are typically disconnected from their surroundings and can diminish the overall quality of life in the area (Gehl 2013). In contrast, complementary spaces are designed to enhance the urban fabric and create positive interactions. They serve specific functions, contributing to the quality of life in urban areas. Examples include public plazas, parks, and green spaces. Complementary spaces are intended to complement and improve the existing urban environment, providing opportunities for socialization, recreation, and community events (Gehl 2013).

Urban voids can be repurposed and transformed into complementary spaces, offering numerous advantages. For instance, vacant lots can become community gardens, abandoned buildings can be converted into art galleries, and derelict areas can be revitalized as public parks. These transformations enhance the urban environment, making it more attractive and functional (Hashem et al. 2022). The development of green spaces connecting urban voids with complementary regions can yield environmental benefits. Such green corridors improve the overall urban ecology, promote pedestrian connectivity, and encourage social interaction. They contribute to cleaner air, reduced heat island effects, and enhanced biodiversity. Before finalizing plans for urban voids, several crucial considerations must be considered. Evaluating the community's relationship with vacant space is essential to determine the extent of intervention required. Adapting to modern lifestyles and activities is equally important, as societal habits evolve over time.

Additionally, fostering a sense of invitation within these spaces, aligning with their identity, and respecting historical values play vital roles in successful urban development. Meeting global urban construction needs and simultaneously addressing the unique characteristics of each space requires the expertise of urban planners and designers (Parfect and Power 2014). Mehta and Bosson (Mehta et al. 2010) emphasize a fundamental difference between urban voids and complementary spaces. While urban voids are often perceived as negative spaces in need of revitalization, complementary spaces are viewed as positive additions that enhance urban character and residents' quality of life. The transformation of urban voids into complementary spaces can lead to substantial improvements in the urban environment.

Table 4 illustrates the close relationship between complementary spaces and urban voids in urban contexts. Urban voids, often seen as underutilized areas, can transform into complementary spaces, enriching urban life. Both serve functions related to social and cultural activities, ecology, and economics, acting as hubs for events, community engagement, sustainability, and economic activity. This underscores their potential for vibrant transformation, blurring initial definitions and enhancing urban development.

Table 4. Relationship between complementary spaces and urban voids in urban contexts

Functions	Urban Voids	Complementary spaces
Social and Cultural	-Repurposed for cultural events, festivals, and exhibitions. -Platform for local artists, musicians, and performers. -Fosters community engagement and strengthens city identity.	-Designed for social interactions and community bonding. -Opportunities for people to gather, relax, and engage with one another. -Facilitates socialization, recreation, and community events.
Ecological Benefits	- Transformable into green spaces, promoting urban biodiversity. - Supports native flora and fauna, contributing to urban sustainability.	- Reduces the urban heat island effect and supports sustainable agriculture (e.g., Brooklyn Grange Rooftop Farm). - Accommodates sustainable and eco-friendly transportation options, reducing carbon emissions.
Economic Contributions	- Generates economic activity and employment opportunities. - Stimulates neighborhood growth and urban economic development.	-Serves as cultural hubs, attracting tourists and generating economic activity for the local economy.

Governors Island: A Complementary Space Enriching New York City's Urban Fabric

Governors Island's history is marked by dynamic transformation. While it once had military significance, it has evolved over the years into a multifunctional space that served various purposes within New York City. Urban voids typically exhibit signs of abandonment, neglect, and inactivity. In contrast, Governors Island has not succumbed to such characteristics. Instead, it has undergone deliberate revitalization and adaptive reuse, transforming from a military outpost to a vibrant center of culture, recreation, and education. The island's active utilization and repurposing demonstrate its resilience and adaptability during different historical periods. Rather than being a dormant area within the urban fabric, it has been repurposed to meet the evolving needs of the city and its inhabitants. Throughout its historical evolution, Governors Island has never fit the profile of an urban void. It has played distinct roles and contributed to the city's development, challenging any perception

of inactivity or abandonment. Governors Island's rich history and its capacity to adapt and thrive throughout different historical eras refute the characterization of an urban void.

It stands as a testament to urban renewal and transformation over time. Governors Island's unique location, nestled adjacent to the bustling metropolis of New York City, presents an exceptional opportunity to redefine the concept of urban spaces. In the past, it may have served various roles, including military purposes, but today, it stands as a testament to the potential of complementary spaces within urban environments (Table 5).

Table 5. How Governors Island Can Enrich New York City's Urban Fabric

Title	Content
Historical Evolution and Significance	It has undergone a remarkable transformation, shedding its military past to emerge as a vibrant and multifaceted urban space. Its historical forts and architectural heritage provide a connection to the city's rich past, adding to its cultural significance.
Green Oasis in the Concrete Jungle	The role as a green oasis amidst the concrete jungle of New York City. The island's expansive parks, tree-lined promenades, and open spaces offer residents and visitors a serene contrast to the city's high-rise structures.
Cultural and Educational Hub	The dynamic blend of cultural elements enriches the city's cultural landscape, offering opportunities for learning, engagement, and artistic expression. It is a living testament to how complementary spaces can foster creativity and intellectual growth.
Event Venue and Community Space	The island's vast grounds are ideally suited for hosting a diverse range of events, festivals, and public gatherings. From concerts and art exhibitions to outdoor film screenings and food festivals.
Environmental Sustainability and Resilience	Its commitment to sustainability and environmentally conscious design aligns with New York City's efforts to combat climate change and enhance resilience. It serves as a model for urban sustainability, showcasing how complementary spaces can integrate green infrastructure and contribute to the city's long-term environmental goals.
Access to the Waterfront	The island's picturesque waterfront location along the harbor offers unparalleled opportunities. Visitors can partake in kayaking, sailing, or simply savor breathtaking views of the Statue of Liberty and the iconic Manhattan skyline. Access to the waterfront is an asset that complements New York City's urban experience.
Balancing Urban Density	Provides room for expansion, reducing the pressure to intensify development within the city's core. This equilibrium between urbanization and green spaces is vital for maintaining a high quality of life for residents.

Governors Island represents the epitome of a complementary space, enriching New York City's urban fabric. Its historical significance, green sanctuaries, cultural vibrancy, and commitment to sustainability make it an invaluable asset. Considering the future, Governors Island's potential for further development and innovation underscores its role as a dynamic and integral part of New York City's urban landscape. It stands as a testament to the idea that complementary spaces can enhance the urban experience, offering a harmonious blend of history, culture, and sustainability in the heart of the city.

Urban voids and complementary spaces play crucial roles in urban development, contributing to social, cultural, ecological, and economic aspects of urban life. Transforming urban voids into complementary spaces represents an opportunity to enhance the urban environment, improve the quality of life for residents, and create sustainable, vibrant cities. This synergy between urban voids and complementary spaces is particularly evident in the case of Governors Island, a prime example of urban development where these concepts intersect. To further illustrate this dynamic interplay, let's examine a detailed comparison in the table below, which highlights key attributes and impacts of urban voids and complementary spaces in the context of Governors Island. Table 6 underscores the importance of thoughtful urban planning, emphasizing the need for collaboration and expertise in shaping urban landscapes that are both functional and enriching.

Table 6. Analysis of the Case Study Based on Urban Voids and Complementary Spaces

Aspect	Urban Voids	Complementary Spaces	Governors Island Context
Definition	Underutilized or abandoned spaces	Designed to enhance urban fabric	Unique characteristics challenging conventional categorization
Relationship to Surroundings	Typically disconnected from surroundings	Designed to contribute to character	Strategically located, posing challenges to conventional classification
Purpose	Often lacks clear meaning or purpose	Serves specific functions	Potential to serve diverse public and urban events, multifaceted utility
Social & Cultural Functions	Potential for cultural events and gatherings	Designed for social interaction and community engagement	Ideal for hosting cultural events, fostering community cohesion
Ecological Benefits	Potential for green space transformation	May support sustainable practices	Opportunities for sustainable development, including green initiatives
Economic Functions	Potential for redevelopment and economic growth	Can bolster tourism and hospitality industry	Strategic location near NYC and NJ, offering economic potential
Governors Island Characteristics	Underwent various transformations, including military use	Historical and geographical significance	Short distance from NYC, potential for public and urban events
Challenges and Opportunities	Revitalization efforts are required due to negative associations	Integration into urban fabric can enhance the quality of life	Balancing historical preservation with modern urban needs
Future Potential	Repurposing for urban development and economic revitalization	Enhancement of urban experience and city branding	Leveraging unique attributes for sustainable urban development

CONCLUSION

In conclusion, this study has shed light on the intricate relationship between complementary spaces and the latent potential residing within urban voids. It becomes evident that there exists a remarkably narrow boundary

between the definitions and positive functions of these urban elements, rendering their distinction less apparent than one might initially perceive. Urban voids, often perceived as underutilized areas, have demonstrated their capacity to evolve into vibrant, functional spaces that contribute positively to urban development. Our analysis reveals that the island's historical significance, green sanctuaries, cultural vibrancy, and commitment to sustainability align it more closely with the characteristics of complementary spaces. Rather than being a mere urban void, Governors Island should be recognized as a dynamic complementary space, defying traditional definitions. These spaces, often concealed within the urban fabric, provide invaluable benefits that might go unnoticed. Governors Island, despite its proximity to New York City and New Jersey, has been an underutilized asset, awaiting recognition of its potential contributions to the surrounding metropolitan areas. The invisible impacts of complementary spaces have the potential to play a pivotal role in the enrichment of Governors Island's urban fabric. Its cultural and educational hubs, green oasis, and commitment to sustainability offer an opportunity to fulfill unmet needs in the neighboring regions. As New York City continues to grapple with population growth and development pressures, Governors Island can serve as a vital space to balance urban density, foster community engagement, and promote ecological resilience. Governors Island's journey from its military past to its present state as a vibrant and multifaceted urban space exemplifies the transformative power of recognizing complementary spaces within urban landscapes. The case of Governors Island serves as an inspiring testament to the untapped possibilities that await, challenging us to expand our understanding of urban environments and seize the opportunities they offer.

REFERENCES

1. Bates LM, Acevedo-Garcia D, Alegría M, Krieger N (2008) Immigration and generational trends in body mass index and obesity in the United States: Results of the National Latino and Asian American Survey, 2002-2003. *Am J Public Health* 98:70–77. <https://doi.org/10.2105/AJPH.2006.102814>
2. Carmona M (2010) Contemporary public space: Critique and classification, part one: Critique. *J Urban Des (Abingdon)* 15:123–148. <https://doi.org/10.1080/13574800903435651>
3. Carr S (1992) Public space
4. Cities JJ-TD and L of GA, 1961 undefined (2019) Jane Jacobs. *SciELO BrasilJ Jacobs the Death and Life of Great American Cities, 1961•SciELO Brasil* 13–25. <https://doi.org/10.22296/2317-1529.2019v21n1p13>
5. Economics RA-C in: 'The OH of U, 2012 undefined Land use regulations and property values: The 'Windfalls Capture' idea revisited. *papers. ssrn.comR Alterman Chapter in: 'The Oxford Handbook of Urban Economics and Planning' (Nancy, 2012•papers.ssrn.com*
6. Gehl J (2013) Cities for people
7. Hashem OM, Wahba SME, Nasr-Eldin TI (2022) Urban voids: identifying and optimizing urban voids potential as a revitalization source in enhancing developing countries' city income. *Journal of Engineering and Applied Science*
8. Hillier B (2004) Designing safer streets: an evidence-based approach. *Planning in London*
9. Kondo M, Fluehr J, ... TM-I journal of, 2018 undefined Urban green space and its impact on human health. *mdpi. comMC Kondo, JM Fluehr, T McKeon, CC Branas International journal of environmental research and public health, 2018•mdpi.com*
10. Lang J (2006) Urban design: A typology of procedures and products
11. Latham A, Compass JL-G, 2019 undefined (2019) Social infrastructure and the public life of cities: Studying urban sociality and public spaces. *Wiley Online Library A Latham, J Layton Geography Compass, 2019•Wiley Online Library* 13:. <https://doi.org/10.1111/gec3.12444>
12. Lynch K (1981) *Good City Form* the MIT Press. Cambridge, Massachusetts.
13. Mehta V, behavior JB-E and, 2010 undefined (2010) Third places and the social life of streets. *journals. sagepub.comV Mehta, JK BossonEnvironment and behavior, 2010•journals.sagepub.com* 42:779–805. <https://doi.org/10.1177/0013916509344677>
14. Parfect M, Power G (2014) Planning for Urban quality: Urban design in towns and cities. *Planning for Urban Quality: Urban Design in Towns and Cities* 1–242. <https://doi.org/10.4324/9780203754467/PLANNING-URBAN-QUALITY-MICHAEL-PARFECT-GORDON-POWER>

15. Shiva N, Ali Asgharzadeh (2019) Preservation and Revival of Historical Monuments and the Creation of Modern Spaces. specialty journal of architecture and construction
16. Sileryte R, Cavic L, Beirao JN (2017) Automated generation of versatile data model for analyzing urban architectural void. Comput Environ Urban Syst 66:130–144. <https://doi.org/10.1016/j.compenvurbsys.2017.08.008>
17. Thawaba S, Ballout T, Morcos Y (2016) Revitalizing urban voids by using GIS
18. Title) NS-(No, 2010 undefined Twelve lectures on architecture: Algorithmic sustainable design: Notes from a series of 12 lectures applying cutting-edge mathematical techniques to. cir.nii.ac.jp
19. Wolch J, Byrne J, planning JN-L and urban, 2014 undefined (2014) Urban green space, public health, and environmental justice: The challenge of making cities “just green enough.” ElsevierJR Wolch, J Byrne, JP NewellLandscape and urban planning, 2014•Elsevier. <https://doi.org/10.1016/j.landurbplan.2014.01.017>
20. Appleyard, D. (1981). Livable Streets. University... - Google Scholar. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Appleyard%2C+D.+%281981%29.+Livable+Streets.+University+of+California+Press&btnG=. Accessed 22 May 2024