Public Space in Cape Town.
It's not about design

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Abstract
Public space ‘failure’ is often attributed to ‘poor’ design. Perceptions such as these open the way for vanity projects at the expense of interrogations of the less glamorous issues that may lead towards practical solutions. Design over-emphasis and the notion that open space is a ‘nice to have’, further detracts from its many important roles, particularly for vulnerable communities living in Cape Town.

This article considers the challenges of delivering open spaces capable of playing multiple roles. Budget availability for maintenance and management, socio-economic issues, planning and institutional complexity and fragmentation, insufficient or incorrect community engagement, lack of inter-sectoral collaboration within professions, and single use design; are some of the challenges that underlie public space failure – in addition to design.

Resolving these challenges is important because of public space’s critical role. Public space is the ‘glue’ that holds cities together. It is part of stormwater management, provides access to economic opportunities, improves safety, structures food access and agriculture and supplies ecological infrastructure for climate adaptation. Whilst design is not the biggest challenge, good design, appropriate norms and standards, integrated built environment practice, monitoring and evaluation metrics, can enable pathways for change necessary to affect a transition towards resilience.

Keywords: public space, parks, resilience, ecological infrastructure, urban health

To cite this article:

This article has been peer reviewed and accepted for publication in The Journal of Public Space.

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Introduction
Is design the reason public spaces fail? Social media and growing public interest have made ‘design’ and ‘urbanism’ more accessible. This interest is exciting and important, but without critical insights, tends to over-emphasise glossy representations leading to the perception that the panacea for public space is re-imagining, re-design and private sector investment (City of Cape Town, 2019). Engagements through the City of Cape Town’s Open Space Working Group suggest it is not.

‘Public space’ serves many purposes and has overlapping functions. They are productive landscapes that feed and replenish groundwater reserves. They are biodiversity areas that build climate adaptation and mitigation. They are streets, public squares and community gardens that foster community cohesion and give space for group and individual expression. They are parks and sports fields that create safe active and passive recreation for adults and children. They are river corridors and nature reserves where nature’s web enables ecological functioning for eco-services. They are streets, pavements and markets where entrepreneurs make a living and food bought. It is where people gather to protest and exercise democratic rights. Public space is the ‘glue’ that holds the city and people together. Open space is the bones and life-blood of our cities. And if well-designed, constructed and maintained, it is potentially attractive and worthy of media interest and promotion.

But if design is not the problem, what is?
Cape Town is South Africa’s oldest city. It is also the second largest metropolitan city, renowned for its natural landscapes and unusual, beautiful *vynbos* (flora). Located on the tip of the African continent, it straddles a peninsula flanked by the Atlantic and Indian Oceans. Developed by the Dutch settlers around a vegetable garden along the Dutch East Indian trade routes, it has played multiple roles throughout South Africa’s history. Today, Cape Town faces escalating uncertainty emanating from climate change, foregrounded by the 2015-2018 drought. Even though the city emerged from this drought more water resilient, it is likely that the future holds other, equally destructive and disruptive shocks and stresses. Public space is an important part of managing these events because it offers adaptability and flexibility that embody resilience. City policy and strategy broadly recognises the important role of public space, but a number of challenges hinder ongoing work.

**Challenges for public space in Cape Town**
Challenges to public space occur on many levels within and beyond the competence of local government. They are firstly, South Africa’s historic apartheid legacy, secondly economic and social decay, thirdly institutional complexity, misalignment and fragmentation that is compounded finally, by a lack of systems thinking and professional recognition of inter-sectoral connectivity of outcomes and the need for flexibility. These establish the dominant co-existent ‘wicked problems’ - in addition to design.
Socio-economic issues

Cape Town’s city-makers (spatial planners, urban designers, landscape architects, transport planners and economists) battle the apartheid legacy that racially segregated South Africans and embedded structural inequality through spatial planning and under-investment in black and coloured areas (Matzopoulos, et al., 2019). Apartheid policy implementation included the forced removal of black and coloured Capetonians to the Cape Flats. This has caused inter-generational trauma that persists today, manifesting in a variety of ways, including mental health, one of the city’s greatest resilience challenges (City of Cape Town, 2019).

Despite successive policy regimes across spheres of government, spatial and economic planning since 1994\(^1\) has disappointingly effected little structural change. Instead, economically-derived racial segregation has replaced apartheid policy and continues to reinforce the divided city. The poorest still live on cheap land at a distance from amenities, jobs, schools and quality public space. This perpetuates historic economic inequality and limits the potential for social integration and economic mobility. Government-funded human settlements projects, intended to provide homes and spatial transformation, flounder under the load of demand and fall significantly short of expectations created by political campaigns – and good place-making. Ten years of national economic stagnation and the more recent mismanagement, ‘state capture’ corruption and COVID-19, have further exacerbated service delivery and

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\(^1\) South Africa held its first democratic election in 1994 and those aged eighteen and older were able to vote, regardless of race.
social issues. These encompass unemployment, mental illness, drug dependency, gender-based violence, gangsterism, crime, food insecurity, illegal land occupation, poverty-related communicable (HIV and AIDS) and non-communicable diseases typically experienced in vulnerable areas within communities located on the Cape Flats.

The built environments in these areas are characterised by overcrowding, rudimentary housing (formal and informal), insufficient basic services, inadequate public spaces, overcrowded public transport and degraded natural environments.

The city has a ‘vulnerability’ mapper that identifies areas of low resilience using GIS layers that include socio-economic data, population density, amongst others. The mapper was extensively used during the COVID-19 pandemic for both the humanitarian relief and the health responses.
Insufficient land for housing has resulted in the ongoing occupation of wetlands or floodplains that is visibly ‘vacant’ but required for flood management (Figure 3) that due to climate change is expected to increase in severity (Figure 4). Even though those living in these areas are aware of the risk, land occupations continue, reducing biodiversity areas and ecological capital needed for resilience and climate adaption, whilst also placing an additional burden on the City’s disaster response resources. COVID-19 research further found that communities living in these areas were more vulnerable to infection than those living in other, better-serviced areas (Berkowitz, et al., 2021). This highlights the international phenomenon of interconnected urban environments and health that create a supporting virtuous cycle for urban environment and health, and the widening inequality gap represented by the uneven distribution of public space (Love & Kok, 2021).

Figure 3: Flooded areas towards the northwest of the city. Source: Bruce Sutherland, City of Cape Town.

Planning for public open space
For families living in dense, over-crowded conditions without outdoor space - public space becomes a necessary extension of living space in addition to providing livelihood opportunities. These spaces - parks, streets, utility reserves, detention ponds and spaces associated with social infrastructure (libraries, clinics etc.) - are not designed or planned for these uses (Figure 5). Open spaces that are planned and designed – such as parks – are also in high demand in vulnerable areas where populations are large - and young. While use is positive,
degradation resulting from over-use, combined with vandalism and low levels of maintenance, can render spaces unusable and contribute towards the general appearance of neglect and decay.

Figure 4 (left): Children playing on a discarded mattress in a newly developed area, Greenville, Fisantekraal, 2022. Source: Bruce Sutherland, City of Cape Town.

Figure 5 (left): Backyard community in Kensington, Cape Town; Source: Author

Figure 6 (right): Children playing at a park degraded from over-use, Greenville, Fisantekraal, 2022. Source: Author.
Several issues can cause ‘over-use’
Firstly, an under-supply of public space because of inadequate planning norms and standards. Secondly, in-situ densification by ‘backyarders’\(^3\) within a property (Figure 6) resulting in densification not considered in initial social services planning. This kind of densification is different to the establishment of informal settlements that occur in the absence of spatial and infrastructure planning. High density and procedural complexity make the retrospective introduction of services such as fire response routes, water and sanitation or public space particularly difficult.

The phasing of dense housing development projects also affects public space success, particularly if development phasing and public space provision are not considered together. High levels of use of new public spaces, before the planting is established, can cause damage and exhaust maintenance budgets\(^4\), even before hand-over to the local authority (Figure 7). The combination of these two dynamics contributes towards the shortage of attractive, public parks in poorer communities, as per the park in Greenville, Fisantekraal. Even though this park did not meet planners’ or designers’ expectations, it is popular and well-used in contrast to other, more recently developed open spaces in the area.

Unused public open spaces may be ‘unused’ because they are vandalised, degraded or unsafe for children and therefore unusable, incorrectly creating the perception that they are surplus to need. The city has in some cases disposed of these types of spaces over time to reduce maintenance commitments and to focus on fewer, larger parks. This reduces the availability of public space and sets up a vicious cycle that potentially compromises other public spaces, because under-supply results in over-use causing degradation and so on.

Over-use plays a role in public space deterioration, but - theft, vandalism and violent crime - possibly play an even greater role. Gang violence within communities makes public space unsafe for communities and City maintenance staff alike, restricting use and maintenance access that also inhibits investment.

Regular maintenance is key to the success of public space. Resources to maintain parks have sharply declined since the post-1994 local government restructuring in 2000. From 120, parks staff, the Constantia area, a wealthy neighbourhood, now has 24, that service the original area, in addition to two other areas (City of Cape Town, Resilience Department, 2022). This team works across their designated area, unlike the Green Point Urban Park that has embedded staff on site for daily oversight and management. A sharp deterioration of public realm quality is noticeable in areas where on-site resources are not available, highlighting their integral role in building open space sustainability. It follows that business plans should be prepared, in addition to plans and designs, that include these resources to protect the investment and ensure usability. Business plans could also include alternative income-streams from restaurant concessions or similar. These are difficult to implement because of asset ownership vagaries and complexity in public/private sector contracting, limiting their potential for activation and safety.

\(^3\) ‘Backyarders’ refers to the people (tenants) who live in informal structures within a property where there is a main house or formal structure.

\(^4\) Landscape projects do not always include a minimum maintenance period of eighteen months and for this reason, plants may not survive.
Public space is integral to many departments’ work, creating institutional complexity. Narrow definitional issues further affect management, resource and budget availability within the City that extend to issues around mandates, roles and responsibilities. At an operational level, maintenance mandates between departments render some areas, such as hard landscaped urban squares, outside ‘normal’ maintenance mandates because they are not viewed as ‘parks’. Nor are they part of roads infrastructure. Consequently, these areas are not properly maintained5 or programmed for active use, causing decay and reduced usability.

Figure 7: Jack Muller Park, Bellville. The Kuils River forms an important structuring element to the park, but has limited potential because of poor water quality. Source: Bruce Sutherland, City of Cape Town.

Designation would also determine the type of maintenance and as such, a road asset would be maintained differently to a park.
A variety of mandate issues also emerge in catchment management where engineers are typically concerned with flood management, rather than environmental management and maintain natural waterways as part of stormwater ‘infrastructure’. Whilst this has been the practice historically, there is a growing awareness of the need for greater environmental sensitivity in water resource management (Official, 2022).

These issues are material to the development of resilient, ecological infrastructure assets that meet multiple objectives and therefore straddle more than one line department mandate. Projects that would be affected include those that look to use public space in a variety of ways such as for stormwater storage and treatment for non-potable use within the public space, or broader precinct. Project initiation phases must therefore first clarify asset ownership to determine departmental responsibility and future management and maintenance. Cautions for this process reside in the possibility that a line department, such as a water and sanitation department - have interest limited to water supply. This may affect the appetite for maintenance of elements that are considered ‘non-water’ but are integral to overall functioning. These considerations are important because urban water systems are becoming progressively more hybridised and integrated with urban systems including open space, blurring functional and institutional boundaries.

Understanding these complexities will be key for the conceptualisation and implementation of new open space projects, particularly if they are to deliver multiple resilience ‘dividends’.

**Professional recognition of inter-sectoral connectivity of outcomes.**

The call for greater urban resilience permeates policy, strategy, planning and institutional arrangements. Identifying acupuncture points to effect implementation will require a deep understanding of the broader governance. Challenges however emerge in the built environment space because ‘public space’ is incorrectly pigeon-holed as ‘parks’. Streets, nature reserves, agricultural areas, markets, plazas, biodiversity areas, flood management areas and groundwater protection zones, amongst others - are also public spaces. Single use application to these spaces undermines their latent potential to fulfil other functions. For example, stormwater detention ponds are important parts of development layouts and perform a single function – stormwater management. These areas, if conceptualised, designed and managed as multi-functional public space, can fulfil this function and other such as a sport facility during the dry months. They are however typically fenced off and use discouraged.

Resilience dividends refers to a project’s ability to deliver multiple outcomes. An example of resilience dividends are the ecological services supplied by wetlands that are defined in the legislation as ‘water resources’. Services supplied encompass water treatment, flood management, biodiversity, groundwater recharge and amenity. Through a broader lens, wetlands offer biodiversity, recreation and social cohesion, health benefits, education, carbon sinks, climate change adaptation, economic opportunities and property value enhancement with related rates revenue for local government. Realising these latent opportunities requires built environment and planning professions to work in an integrated way, particularly in relation to management and maintenance.

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*A detention pond manages stormwater in the short term to prevent flooding. Stormwater is held on site and released gradually after the rain event. They are different to retention ponds that are permanent water bodies.*
Similarly, a road has value beyond its transport function. Mobility is limited for many Capetonians, due to unemployment and the ability to pay. It follows that many are confined to the areas where they live because of unemployment or low incomes. The emphasis on roads for mobility therefore shifts to streets\textsuperscript{7} as urban ecosystems that support multiple systems such as economic infrastructure for sales both informally and formally; opportunities for social cohesion; street landscaping for liveability, climate adaption and water management - amongst others.

For example, Cape Town’s informal sector - traders operating from small shops, spazas, home shops – and street traders; supplies between 60 and 70% of food in townships and informal settlements. Most of the activity is informal, loosely governed and highly localised.

The importance of the informal sector in South Africa’s food system emerged strongly through the COVID-19 pandemic, particularly when the initial lockdown regulations prohibited markets and street trade, thereby limiting shopping to large retail outlets outside of communities – or humanitarian relief such as food parcels or community kitchens. Because roads are not designed as urban ecosystems inclusive of, but not limited to mobility, there are conflicts between different users.

Design and management across disciplines can improve this, but will require a different way of working across the built environment professions to achieve a transition to vibrant and liveable streets that in turn deliver resilience dividends.

Changes in design norms and standards and working practices will contribute to the transition, as will different monitoring and evaluation criteria that move away from narrow engineering measurements towards metrics that consider nutritional outcomes, climate change, liveability and resilience. However, professional recognition of the cross-sectoral nature of outcomes is key to achieving these changes.

Metrics and measurement are also important for determining how public space is valued. Public space may be seen as a ‘grudge purchase’ because it does not generate an income for developers or local government. It competes in budgeting processes against priorities such as water, sanitation and electricity and unlike the latter, the intangible nature of some of the services make it difficult to measure and compare objectively.

For example, in 1990, Nelson Mandela addressed thousands of South Africans on the Grand Parade. It was a seminal moment in South Africa’s history - his first appearance since his imprisonment in 1964. Why the Grand Parade was chosen is unclear, but the thousands of South Africans who gathered - sent a powerful message of solidarity around the world. What value did that moment represent? What role did the ‘place’ play in generating value? Is there a measurement metric for moments such as this?

Measuring the civic and democratic value of open space is more difficult than, for example stormwater detention and retention ponds, but even these elements play additional roles that are not typically considered in monitoring and evaluation. Public space value is often intangible and therefore difficult to measure and compare with other city-making investment, such as infrastructure, affecting budget prioritisation.

\textsuperscript{7} In this article a ‘road’ is defined as a hardened surface for vehicular mobility and a ‘street’ is defined as roadway within an urban context including pedestrian routes, cycles ways, public transport infrastructure and building edges.
Figure 8: Can a city be democratic without public space? The crowd on the Grand Parade in front of City Hall, Cape Town, awaiting Nelson Mandela after his release from prison, 11 February, 1990. Source and copyright Louise Gubb.

Importance of public space
Public spaces in South Africa are not always pretty objects in space. They are not spaces for tip-toeing across lest the perfection of the ‘manicure’ be ruffled. They are robust and grimy. They are the places where everyone is equal - and vulnerable. Outside. Unprotected by a vehicle or building. It is in these spaces that we bump shoulders and lock eyes. They are statements of democracy, economic infrastructure, food environments, ecological infrastructure for climate adaption and urban health. Sometimes these spaces are safe. At other times they are not. The following section provides examples of these typologies.

Public space for economic activity
Public space importantly hosts economic activity. Crime however degrades public space and makes it unsafe to use. Khayelitsha’s Violence Prevention through Urban Upgrade Safe Node Area was developed to improve safety. It uses urban regeneration structured around public space to create economic, residential opportunities – and thereby safety. The process started by understanding crime (robbery, murder, rape and break-ins) through mapping and community engagements and thereby embedded safety as a structuring element of the design. Principles of crime prevention through environmental design were applied to emphasise surveillance and visibility, territoriality (‘owned’ spaces), access and movement, image and aesthetics (dignity), physical barriers, maintenance and management (pride and ownership) (VPUU, 2019).
The project components included the development of pedestrian routes edged by shops and trade opportunities connected to social facilities and public transport. Management via community partnerships and ‘lighthouse’ structures ensure that buildings orientate to public spaces and are occupied and operated, and that maintenance is undertaken promptly, ensuring that the area is cared-for and has ‘eyes on the street’. Matzopoulus (2019) study of the project found that respondents who lived within 2km of the project experienced less violence, showed fewer signs of depression, and were more satisfied with the infrastructure in their neighbourhood, than those who lived beyond the study area. While these findings are indicative of success, social cohesion among residents in the project area was found to be lower than in surrounding areas. Similarly, the Victoria and Alfred Waterfront, Africa’s premier tourist destination and one of the brightest jewels in Cape Town’s economy is structured around a high-quality public realm8 within a mixed precinct comprising residential and commercial opportunities, in addition to a shopping mall. While serving more global, upmarket users and tourists, it is nevertheless an important publicly accessible destination. The value of shopping malls in building desirable cities remains controversial, but their public space contribution and the locational value for retailers should not be dismissed and requires research for a deeper understanding that could lay the foundations for greater private sector investment.

Ecological infrastructure for climate adaptation and mitigation
Nature reserves, river corridors, biodiversity areas, wetlands, sports fields, groundwater recharge areas and agricultural land amongst others, are ecological infrastructure and public spaces. These elements form an integrated network of spaces and places that have the potential for eco-systems services towards climate adaption, mitigation and resilience.
Piece-meal planning however limits this potential, in addition to institutional fragmentation. The Greening of the City (1982) and the subsequent Metropolitan Open Space Strategy (MOSS) identified green and blue corridors across the city connecting mountain to sea and sea to sea9. Subsequent programmes, such as the Source to Sea and the Green Infrastructure Programme incorporate some of the key MOSS principles. Lack of resources to implement these programmes and severe pressures on land for housing, has depleted the green resources available for protection and development as usable public space. The separation of water resource management and environmental/park management has further limited the introduction of stormwater management assets into public open space, reducing their potential resilience dividends.

8 The precinct is privately owned and access to the public realm is therefore carefully controlled.
9 Cape Town is located on a peninsula. The Cape Point Nature reserve represents the point at which the Atlantic Ocean and Indian Ocean meet.
Even though City resources are constrained, some communities have recognised the need for ecological infrastructure and are actively upgrading their waterways. The upper Newlands/Bishopscourt community have developed the Upper Liesbeek River Garden. The community-funded the project and ongoing upgrading in partnership with the city. It emerged as a response to increasing crime, illegal dumping and the proliferation of alien invasive plants. Since 2004, incremental landscaping interventions, including a programme of alien invasive removal, bank stabilisation, picnic area, flood control and universal access elements have transformed an unusable area into a well-used and popular place where uniquely, children can safely play in an urban river. The Khayelitsha Canoe Club is another example of a civil society working together to improve their natural environment, illustrating similarities between the socio-economically divergent Khayelitsha and Bishopscourt. Whilst the Upper Liesbeek River Garden is community-initiated, the Khayelitsha Wetland Park is a legacy of the FIFA World Cup Football event in 2010. With limited City support, the Canoe Club operates education tours for local and international visitors that promote the park and wetland. They are unofficial custodians who maintain a part of the park that falls beyond the broader boundary. Litter and dumped material removal and notifying the City of other maintenance issues are some of the activities that they undertake that contribute towards the success of the park. Whilst different in many ways, these two parks illustrate the importance of partnerships and communities’ on-site presence for ecological infrastructure management, in addition to the potential for income generation. A different approach to ecological infrastructure is evident in the FIFA Football for Hope Centre, part of the Khayelitsha Safe Node Area project. It is an example of water...
sensitive design that integrates public space and water management in a more structured, urban way to transform unsafe stormwater detention ponds into children’s sports fields. These fields are temporarily unusable after heavy rains, but during dry conditions, are an important asset, in addition to supplying ecological services such as groundwater recharge.

The importance of ‘green’ public space in climate adaptation and mitigation is widely recognised globally and significant strides have been taken to implement urban greening projects in cities in the global north. Even though South Africa’s climate change-related projects lag behind global efforts, the Sea Point Promenade in Cape Town is indicative of an emerging practice. The project is located on the Atlantic Seaboard side of the city where storms have eroded the sea wall. Reconstruction and reinforcing work to protect the residential area against future storms has integrated significant public realm upgrades that further augment usability and attractiveness for a range of Capetonians.

Hard landscaped berms reduce wave action; protect the land area and create vertical interest to the horizontal surface whilst also introducing playful elements for walkers, joggers, cyclists and skateboarders, thereby interweaving landscape elements and climate adaptation elements seamlessly into open space.

Even though the value of ecological infrastructure is becoming more widely accepted and promoted, it is less accepted within engineering-dominated contexts, in part because there is little local comparative financial modelling of green versus grey infrastructure.

Urban health

‘Urban health’ considers ecological, biological, psychological, behavioural, and economic factors to be health determinants (Ompad, et al., 2007). It follows that a sustainable city is a city that supports good urban health (Faragher, et al., 2021) via urban planning and investment in open space.

Given the multi-dimensional approach to healthy cities, it is necessary to consider a broad range of factors such as the way that daily activities – living, working and playing - occur spatially across the city and affect individuals’ and community health (Berkowitz, et al., 2021). These activities vary across South African cities and are determined by poverty, inequality and unemployment, often remnants of apartheid policy and planning. Obesity from over-nutrition and a non-active lifestyle increases the risk of developing non-communicable diseases (NCDs) (Chopra, et al., 2007; Resilience Strategy, 2019) and vulnerability to illness, such as COVID-19. The Western Cape, where Cape Town is located has high levels of obesity with 44% of men and 73% of women suffering from (Faragher, et al., 2021).

The causality between obesity, NCDs and child stunting is self-reinforcing and creates a double burden of disease (City of Cape Town, 2019). Communicable diseases (HIV/AIDS and TB), mental health issues, crime, substance abuse, poverty (City of Cape Town, 2019) and depression caused by living in dense, urban environments, injury and trauma and maternal and child mortality – turns the double burden of disease into a quadruple burden of disease (Faragher, et al., 2021).

Open space interventions cannot resolve all these issues, but the availability of active and passive recreation facilities for a variety of physical and social activities can reduce dangerously high levels of obesity, improve socio-economic status and living environments, mitigate and adapt climate change - and build resilience.
Making the shift towards a healthy, resilient city therefore pivots in part, off improvements to the public realm.

Conclusion
The problems with Cape Town’s open spaces are multifaceted and underpinned by ‘wicked problems’ - in addition to design. Interest in public space must be harnessed and knowledge shared by those who understand the less glossy issues and complexity to improve design and guide investment in public space that guards against its commodification. Public space is more than a ‘nice to have’. It is a critical part of our pathway to climate survival and resilience. Whilst design is not the biggest challenge, good design combined with an integrated collaborative, built environment practice with appropriate norms and standards, monitoring and evaluation metrics, can enable pathways for change necessary to affect a resilience transition. The sustainability of these pathways will however be determined by the socio-economic context including crime and safety, public space management, maintenance and activation.

References
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