Democratic Counterterrorism Protective Security: An Integrated Approach to Safe Cities

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Abstract. In the wake of notable attacks, such as the Lindt Cafe siege and the Flinders Street attack, there is a growing focus on counterterrorism in Australia. As terrorist attacks trend toward low-sophistication attacks in crowded places, public safety responsibility is increasingly shared by private and government stakeholders, including built environment practitioners. Designing the built environment to mitigate the impact of terrorist attacks, or reduce the possibility of attack, is known as counterterrorism protective security (CTPS) and is increasingly utilised in the public domain. However, existing counterterrorism policy documents in Australia provide limited public domain design guidance for CTPS design, hindering effective placemaking. Improper CTPS implementation can exacerbate collective neurosis, hinder accessibility, and impair aesthetics. If the experience of a public place increases anxiety or inhibits physical accessibility, it does not fulfil its function as a space for the exercise of the democratic right to participate in the public domain. Hence, we propose that CTPS implementation that promotes public participation in places be termed *democratic CTPS*. This paper is part of a larger study exploring the integration of democratic CTPS in the built environment, addressing the gap in democratic CTPS design guidance in the Australian context. This paper focuses on New York City (NYC) as a case study. NYC has experienced numerous high-profile terrorist attacks and has implemented various CTPS strategies. NVivo was used to facilitate thematic analysis of secondary sources including CTPS guidance, publicly accessible CTPS project documentation, academic research, and news articles. The research provides insights to help policymakers inform CTPS guidance documentation in Australia.

Keywords: Counterterrorism, Protective Security, Public Safety, Accessibility, Safe Cities, Democratic CTPS

1 Introduction

Terrorism remains a “persistent and pervasive threat worldwide” according to the U.S. Bureau of Counterterrorism [1]. In Australia, the current national terrorism threat level is "probable" [2], and in February of this year, Mike Burgess, the current Director-General of Security in charge of the Australian Security Intelligence Organisation, warned that Sunni Islamic violent extremism poses the “greatest religiously motivated threat in Australia” [3]. As terrorist attacks trend toward low-sophistication attacks in crowded places [4], the responsibility to ensure public safety is increasingly shared between the public sector and built environment practitioners. Designing the built environment to mitigate the impact of terrorist attacks, or reduce the possibility of attack, is known as counterterrorism protective security (CTPS), and the implementation of

CTPS in the public domain is occurring with increasing frequency [5]. For the purposes of this paper, the term *democratic CTPS* is used to refer to an approach to CTPS that facilitates the public's democratic right to participate in the public domain by minimising the physical and psychological barriers to accessibility. New York City (NYC) is a relevant case study due to its history of terrorist attacks, advanced CTPS strategies, and the learning they have undertaken in recent decades. This paper analyses CTPS measures implemented in NYC to inform CTPS guidance documentation in Australia.

2 Literature Review

2.1 Historical Context and Evolution of Terror Attacks

In the 20th century, terrorist attacks in Western countries have primarily targeted government and critical infrastructure, such as the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City, which killed 195 people [4,6]. However, terrorist attack methods have changed over the past two decades to focus on targeting crowded places using relatively basic weaponry, such as vehicles, firearms, and knives [4,7]. Notable examples of terrorist attacks employing low-sophistication weaponry targeting crowded places include the Paris attacks (firearms, rudimentary bombs; 2015), which left 130 people dead [8]; the Nice attacks (vehicle; 2016), which left 86 dead [9]; the Berlin Christmas Market attack (vehicle; 2016) which left 12 people dead [10]; the Christchurch, NZ shooting (firearm; 2019) which left 51 dead [11].

2.2 Shared Responsibility for Public Safety

As the prevalence of attacks increasingly focus on crowded places, the responsibility to ensure public places are reasonably protected from terrorist threats now extends to non-governmental stakeholders [12]. Built environment practitioners are among those who must consider the threat of terrorism [13] as they collaborate with private owners to design and develop new projects. This is achieved through CTPS, which is the design of the built environment to mitigate the impact of terrorist attacks or reduce the possibility of such an attack.

Many Western governments have developed guidance documents relating to protecting crowded places from terrorist attacks. However, Christensen [5] contends that much of the published guidance does not provide actionable direction for practitioners to assist in the design and implementation of CTPS. In Australia, CTPS is increasingly prevalent in response to high-profile terrorist attacks, such as the Lindt Cafe siege in 2014 and the Flinders Street attack in 2017. In response to these attacks, the Australia-New Zealand Counter-Terrorism Committee released *Australia's Strategy for Protecting Crowded Places from Terrorism* [14], which emphasises the need for all stakeholders to take responsibility for public safety. The strategy introduces a layered security model, focusing on deterring, detecting, delaying, and responding to potential attacks. However, the guidance primarily targets owners and operators of crowded places, providing limited direction for the built environment practitioners in designing and

developing the public domain [5]. Perhaps due to the lack of design guidance, it has been argued that CTPS imbues the public domain with a sense of tension, creating 'neurotic cities' [15]. As such, it is important to understand how to address the risk of terrorism through the built environment while minimising collective neurosis.

2.3 The Spectrum of Visibility in CTPS

Built environment practitioners have a responsibility to balance social, environmental, and economic factors in the pursuit of effective placemaking. Implicit in the concept of placemaking is the democratic principle that public spaces should be designed for the community [16]. Responding to the risk of CTPS interventions increasing paranoia among the public, Coaffee et al. [13] provide a model to classify the visibility of security measures in the urban environment as 'overt', 'stealthy', and 'invisible'.

It is important to note that the 'visibility' of CTPS referred to by Coaffee et al. [13] is not simply limited to visual impact; rather, it refers to the effects of CTPS on the public experiences of space. Therefore, CTPS measures that are 'invisible' or 'stealthy' but create barriers impeding the movement of people with disabilities, pedestrians, or cyclists should be characterised as 'overt.'

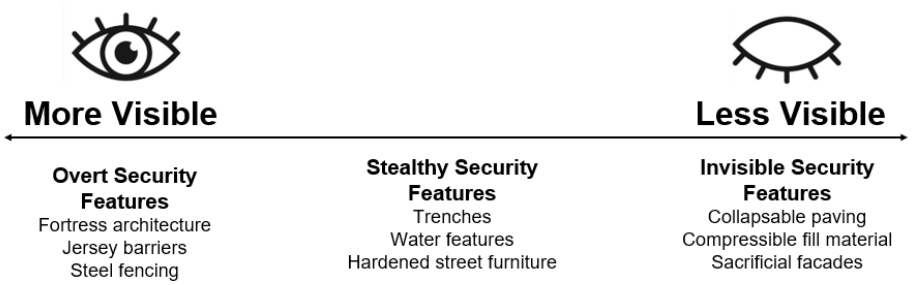

Fig. 1. An indicative spectrum of visible security. *Source: Authors, adapted from Coaffee et. al.* [13]

Overt CTPS is designed to be obtrusive and includes concrete barriers, steel fencing, bollards, and similar interventions. Their purpose is to indicate to anyone with hostile intentions that a particular area is fortified and secured. While these measures aim to signal security, they can lead to flawed risk perceptions and heightened anxiety [13,17]. Invisible CTPS attempts to ensure that such interventions are not noticed nor acknowledged by the public [13]. Although invisible CTPS is an attractive option in response to the issues presented by overt CTPS, there is a risk that collective anxiety arises from the perception that the public space is unsafe [13,18]. Invisible CTPS also raises ethical issues regarding who makes decisions regarding security measures implemented in the public realm and whether these strategies should be made known to the public [13,19]. Invisible CTPS should therefore be treated with a degree of caution [13]. Stealthy CTPS is the middle ground; it is visible to the public, but not easily identified as being primarily implemented for the purpose of security [13]. Stealthy CTPS addresses the issues presented by overt CTPS by integrating security features into the urban fabric. It

also provides reassurance to users of the place who may be concerned by the risk of terror attacks, as the CTPS measures are not hidden from the public. The ethical issues related to invisible security measures are also avoided [13]. Therefore, stealthy CTPS is generally considered to be well-positioned for implementing CTPS in crowded spaces, as it provides protection for the public, aims to contribute to good placemaking outcomes, and can be implemented such that accessibility to the places can be assured. Therefore, this paper will focus on stealth CTPS solutions as a possible strategy to achieve *democratic CTPS* intervention.

3 Methodology

This research is part of a larger study exploring democratic CTPS strategies for the built environment, focusing on global cities with varying terrorism risk ratings. As one of the United States' most iconic and populous cities, NYC has been a high-risk target for terrorist attacks [20] and, consequently, has developed and refined their approach to consideration of CTPS measures and strategies to prevent and deter terror attacks. NYC was selected as a case study for this study because of their high risk rating the evolution of their CTPS strategies over decades, and their public reporting of the impacts of their intervention strategy, making this a relevant case study for this research. By examining these strategies, we aim to draw lessons to inform CTPS implementation in Australia.

The case study methodology included a systematic review of secondary sources, including relevant guidance published (or contributed to) by the New York Police Department and the Federal Emergency Management Agency (FEMA), publicly accessible CTPS project documentation provided by key design consultants, independent reports, academic research, and news articles. Documents were located using academic databases, government websites, and systematic keyword Google searches including keywords such as "Counterterrorism interventions NYC," "antiterrorism NYC," and "Jersey Bollards NYC." Thematic analysis of all secondary sources was undertaken in NVivo. This enabled the research team to code the breadth of documents and identify key thematic patterns, insights, challenges and opportunities relating to CTPS in NYC.

4 Case Study: New York

4.1 Initial Response Post-9/11

In the immediate aftermath of the September 11th attacks in 2001 (9/11), NYC's approach to securing the public domain relied primarily on overt fortification, typified by the widespread implementation of concrete Jersey barriers and other physical security interventions [21]. This post-9/11 fortification can be characterised as an "architecture of dis-assurance," instilling a sense of fear in observers [19, p. 279]. Nemeth and Hollander described the fortifications in NYC's public domain as a "hyper-securitization of space," that resulted in a significant loss of public space [21, p. 24]. Marcuse

described this period as a barricading of the city that inhibited "activities normal to a democratic society" [22, p. 601].

4.2 Evolving CTPS Strategies: 2002 - 2012

Recognising the adverse impacts of post-9/11 reactionary CTPS, innovative solutions were sought to increase amenity in the public domain. In 2007, FEMA collaborated with the NYPD to publish *FEMA 430*, which included many of the best-practice approaches in NYC. The document's governing principles emphasise the acceptance of a reasonable level of risk, a multidisciplinary approach to security, placemaking, functionality of the public domain, accessibility, and adaptability. In essence, the governing principles of *FEMA 430* align with the concept of democratic CTPS, as it aims to provide reasonable security while removing physical and psychological barriers to the public domain. Two of the projects considered 'best practice' include Battery Park and the New York Financial District, which are discussed below.

Invisible Security Measures: Battery Park. Now known as The Battery, this public park on the southwestern side of Manhattan underwent redevelopment after 9/11 that focused on integrating security features whilst also improving the public and pedestrian realm. James E. Cavanaugh, the president and chief executive of the Battery Park City Authority at the time, stated "We want to provide the feeling of a city, rather than an armed camp" [24]. The American Society of Landscape Architects [25] noted that "The quality of the public space was a driving force in the design of security measures that were to be implemented in subtle ways throughout the site." One of the security measures is the Tiger Trap, an intervention that is invisible to observers and collapses if a heavy vehicle is driven over it. A similar technique was applied in the design of the park bus stops, which used collapsible fill in front of bench seating to combat vehicle attacks.

Ethical and Accessibility Considerations. The use of invisible security measures such as the Tiger Trap raises ethical governance questions regarding who decides what level of securitisation is appropriate and acceptable in the public domain. The purpose of such invisible security is largely undermined when the security measures and their location are identified and discussed by media outlets, guidance documents, and academic publications. As *FEMA 430* notes, "not all the elements of the security planning can be shared with the public, and tact and discretion must be used in dispensing information"[23, p. 3-9]. Boddy also notes that invisible counterterrorism elements, such as the Tiger Trap, integrated into the public domain may represent "the future hardening of public buildings and public space - soft on the outside, hard within, the iron hand inside the civic velvet glove" [19, p. 279]. Additionally, invisible security measures can leave users feeling that places are unsecured and thus have the unintentional impact of increasing anxiety among users of the place [13].

Furthermore, the design of CTPS to preserve accessibility does not guarantee effective long-term placemaking outcomes. For instance, an accessibility ramp at Battery Park was left unobstructed for more than a decade from the completion of the

redevelopment. However, in June 2022, a concrete block had been installed, resulting in non-compliance with *Americans with Disabilities Act* (ADA) as shown in Figure 2. This indicates that guidance and original design intent alone are insufficient without appropriate ongoing training and awareness of relevant regulatory requirements. Ensuring that CTPS measures are consistently and correctly implemented to meet both security and accessibility requirements is a challenge that requires continuous attention.

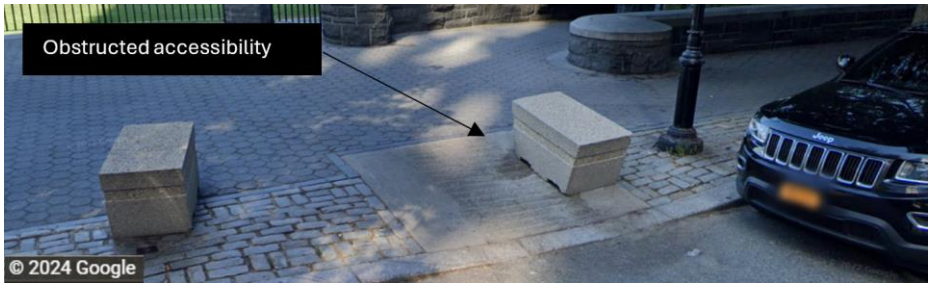

Fig. 2. Obstructed accessibility ramp post-protective security installation on River Terrace at Battery Park - June 2022. *Source: Google Streetview and annotated by authors* [26]

Stealthy Security Measures: Financial District. The Financial District in NYC, a high-traffic pedestrian-dominant urban area, was identified as requiring additional securitisation by the NYPD after 9/11. The project aimed to provide CTPS measures while enhancing the streetscape, relying primarily on stealthy CTPS measures such as bronze NOGO sculptures, shown in Figure 3, that function as both vehicle barriers and pedestrian seating, aimed at increasing visual appeal and street amenity. One of the most innovative CTPS measures implemented was the vehicle turntable that provides selective vehicle access, CTPS design not previously seen implemented in the public domain. These stealthy CTPS measures avoid the ethical issues of invisible security and have been widely praised for their sympathy to the surrounding urban context and the prioritisation of pedestrian access. Blair Kamin, a journalist for the Chicago Tribune said: "[The NOGO barriers'] bronze surfaces actually echo the grand doorways of Wall Street's temples of commerce. Pedestrians easily slip through groups of them as they make their way onto Wall Street from the area around historic Trinity Church. Cars, however, cannot pass" [27].

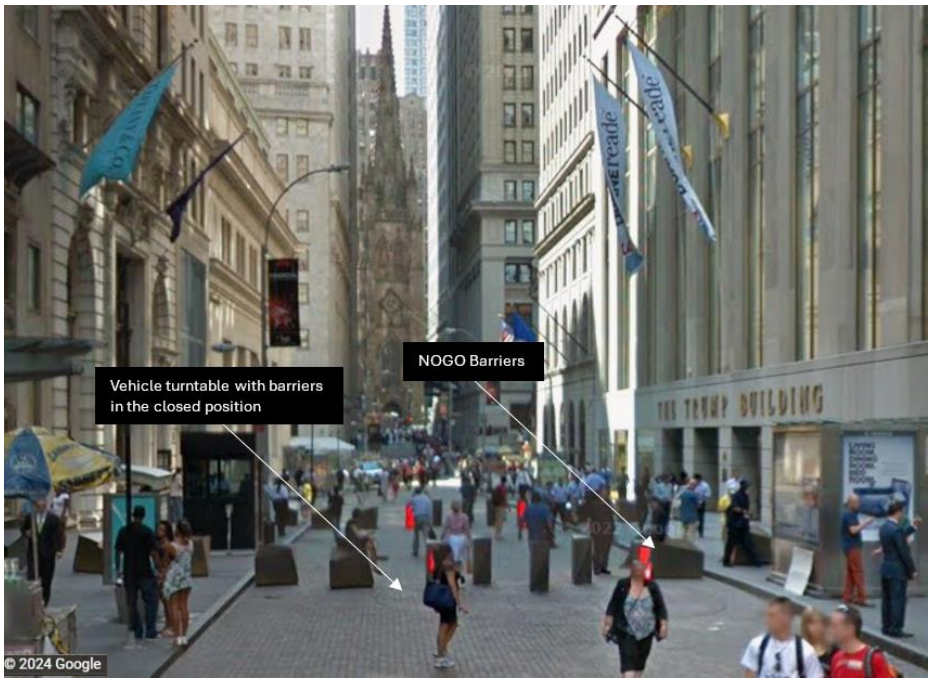

Fig. 3. NOGO barriers and vehicle turntable with barriers in closed position on Wall Street shortly after installation – July 2011. *Source: Google Streetview and annotated by authors* [29]

Maintenance Challenges. Unfortunately, the aesthetic security installation in the Financial District was short-lived. By 2013, due to ongoing maintenance issues, the vehicle turntables were replaced with more traditional overt security measures, including a Sally Port (a secured, controlled entryway into the area) and a portable NYPD gatehouse [28]. The bronze barriers atop the vehicle turntable remain in place and permanently open among several other concrete barriers behind the Sally Port, making the street appear cluttered and disjointed; as shown in Figure 4. The resulting streetscape adversely impacts pedestrian permeability, and the Sally Port creates the appearance of a militarised zone.

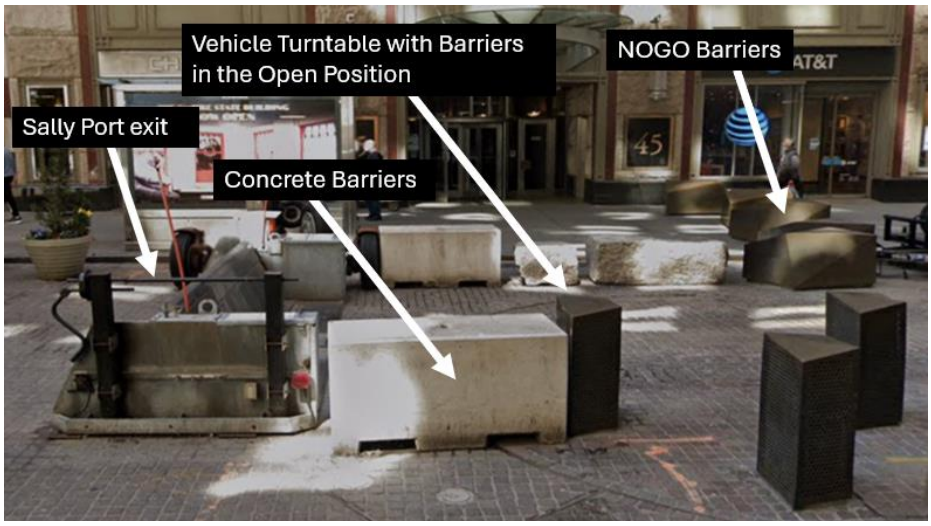

Fig. 4. Cluttered streetscape on Wall Street post-modification – April 2021 [30] *Source: Google Streetview and annotated by authors*

4.3 Evolving CTPS Strategies: 2013 - Present

In recent years, NYC has become more comfortable with less democratic CTPS strategies. The design of CPTS of the World Trade Center Campus Plan in 2013 and the implementation of Jersey barriers in the Hudson River Greenway in 2017 are examples of this changed approach and demonstrate the evolving response to threat following a 2010 failed car bombing attempt in Times Square, the Boston Marathon bombing in 2013, and the Hudson River vehicle ramming attack in 2017.

Overt Security Measures: WTC Campus Security Plan. In 2013, the World Trade Center (WTC) Campus Security Plan was developed to ensure "a comprehensive vehicle security perimeter for the WTC Campus … to protect against vehicle-borne explosive devices while ensuring an open environment that is hospitable to remembrance, culture, and commerce" [31, p. ES-1]. Although the City Environmental Quality Review (CEQR) specified that the project would contribute to an "open environment," securitisation of the public domain relied significantly on overt security measures including active vehicle arrest barriers, vehicle scales, steel bollards, CCTV cameras, and credentialing to ensure no unauthorised vehicle access [32].

Community Pushback on Overt Security. Given the tragic history of the World Trade Center site and its symbolic significance, it is acknowledged that the provision of overt security measures may be appropriate in the context. Nonetheless, the issues caused by overt security measures were demonstrated when, in 2013, a group of lower Manhattan residents and a business owner filed a lawsuit against the NYPD in the state's Supreme Court in response to the Security Plan, stating that the security interventions would contribute to a "fortresslike" streetscape [33]. One example of the complaint related to

the requirement for residents to pass through security checkpoints to enter and leave the WTC campus in their vehicle, with one resident stating: "I live in the City of New York - not 'on campus' or in a gated community. I do not want to prove who I am to come home to my own apartment" [33]. Although the lawsuit was dismissed, the community's response to the plan demonstrates the issues arising from overt CTPS.

Overt Reactionary Measures Post-2017 Attack. After the 2017 vehicle ramming attack, where a driver drove into cyclists and runners on the Hudson River Park's bike path in Lower Manhattan, the NYPD and Department of Transportation immediately installed a range of temporary, overt CTPS measures along the Hudson River Greenway to protect pedestrians and cyclists from future vehicle ramming attacks. The CTPS measures installed included Jersey barriers and concrete bollards, the same as those installed across NYC immediately post-9/11. However, these measures resulted in severely reduced accessibility [34]. An attempt to minimise the issue of pedestrian and cyclist permeability was made shortly after installation by realigning the Jersey barriers parallel with the bike lanes [35] (shown in Figure 5).

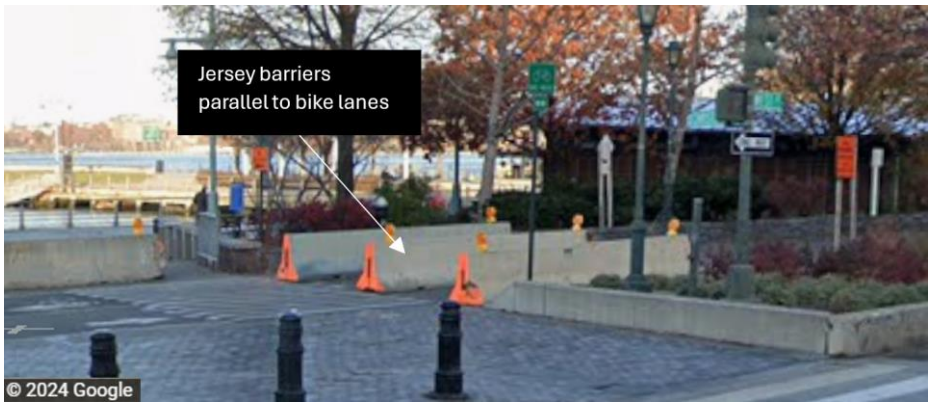

Fig. 5. Modified Jersey Barriers on Hudson River Greenway post-community consultation – June 2019 [36] *Source: Google Streetview and annotated by authors*

Community Consultation Neglected. A community action group called 'Transportation Alternatives', representing the interests of cyclists, sent a letter to the then Mayor Andrew Cuomo advising that permanent barriers should be five feet apart to allow for suitable cyclist accessibility [37]; however, no response was received. Despite *FEMA 430*'s guidance specifying that community consultation and stakeholder engagement can assist in the implementation of CTPS measures, Meyers [38] reported that no known community consultation was undertaken in the design of the permanent barrier installation: "The busiest trunk line in the entire New York City bike network is getting redesigned without any discernible public outreach to bike infrastructure experts." The installed bollards were spaced forty-eight inches apart, wide enough only for a single cyclist [38]. Because of the high amount of cyclist traffic on the greenway, the barriers are reported to have resulted in increased bottlenecking and cyclist crashes [39]. This outcome demonstrates that, despite the availability of guidance requiring accessibility

to be considered in the implementation of CTPS, voluntary guidance is not necessarily implemented and can result in severe and adverse outcomes.

4.4 Summary of Case Study Lessons

Table 1 provides a summary of the key impacts and lessons discussed.

Table 1. Summary of CTPS impacts and lessons

Period	**CTPS Intervention(s)**	**Impact**	**Lesson**
Post-9/11 (2001)	Overt fortification included concrete barriers and unmitigated physical security	Instilled fear and hyper-securitisation resulted in a loss of public space.	Reactionary measures can undermine the intended use of the public domain and negatively affect citizen experience.
Evolving Strategies 2002-2012	Battery Park Integration of invisible security into the landscape to maintain the public realm's amenity.	Improved amenity of public space but created ethical concerns about transparency.	Non-overt security measures are suitable for the public domain but must balance ethical considerations regarding transparency.
		CTPS and disability access conflicts.	Maintaining security and accessibility requires ongoing awareness among operators.
	Financial District Stealthy measures (e.g., NOGO sculptures and vehicle turntable)	Improved streetscape initially; maintenance issues resulted in cluttered appearance over time.	Stealthy security is suitable for the public domain; maintenance and adaptability are crucial for long-term effectiveness of stealthy security.
Evolving Strategies 2013-Present	WTC Campus Security Reliance on overt measures such as barriers, bollards, and checkpoints	Perceived as intrusive and fortress-like by residents; created unrest and nervousness about the interventions.	Adverse placemaking outcomes and community unrest may be created when relying on overt security measures.
	Hudson River Greenway Jersey barriers post-2017 attack, limited community consultation	Lack of engagement with community resulted in reduced accessibility and increased bottlenecks for cyclists.	Adherence to general guidance without consideration of local context and consultation is likely to result in adverse outcomes.

5 Application of CTPS in Australia

The primary document governing CTPS in Australia is *Australia's Strategy for Protecting Crowded Places from Terrorism*. However, it provides limited guidance for built environment practitioners in the effective design of public places [5]. The NYC case study provides insights into the reality of implementing CTPS in the public domain learned over decades of intervention and capturing community response to CTPS implementation. These insights can reasonably be applied to the Australian context, particularly key lessons relating to visibility, transparency, maintenance and adaptability, accessibility, and community consultation.

As demonstrated in the NYC case study, considering the Spectrum of Visibility is vital for public domain CTPS implementations. While invisible CTPS seems to address many of the issues presented by overt CTPS, they can leave users feeling unsafe when public places are perceived as being unsecured. Furthermore, it may raise ethical concerns regarding the transparency of these implementations. Stealthy interventions strike a middle ground, being visible to the public but not easily identifiable as being for security purposes. This approach was shown to be initially successful in the Financial District and was widely praised for the interventions' sympathy to the surrounding urban fabric.

Therefore, we recommend that CTPS design guidance in the Australian context should preference stealthy CTPS integrated into the surrounding environment. Interventions should minimise adverse impacts on, and where possible enhance, the public domain. The strategic use of CTPS measures incorporating street furniture and NOGO barriers can significantly improve the aesthetics of CTPS intervention and enhance the public space by providing a pedestrian amenity to the streetscape. However, it is also important to acknowledge that high-risk locations within the public domain are likely to still necessitate some overt security measures. This is supported by research which indicates that overt CTPS measures provide a sense of security to users of places where security intervention is expected. When this is the case, CTPS measures should be implemented thoughtfully, and integrated with the design of the place as much as possible with a demonstrated effort to reduce negative user impacts, while also ensuring that accessibility to the place for people with disabilities is not negatively impacted.

It is also important to consider the lifespan and versatility of CTPS measures when finalising an implementation plan. As learned from the Financial District implementations, complex mechanical solutions can create on-going maintenance issues and negatively impact the perception and use of places. We therefore recommend that complex mechanical solutions should be avoided. Instead, Australian guidance documentation should promote simple-mechanism, low-maintenance CTPS measures that enable the public domain to adapt to the evolving nature of terrorist threats. This will help ensure that the CTPS installations do not result in disjointed and cluttered streetscapes, as seen in the NYC Financial District.

Furthermore, acknowledgement of the right to participate in public life should be incorporated into Australian security guidance documentation. A comprehensive CTPS accessibility framework should be developed that incorporates the needs of pedestrians, cyclists, and people with disabilities in the design and implementation of CTPS.

Furthermore, emphasis should be placed on the importance of maintaining accessibility during installation and ongoing maintenance. We recommend this emphasis on democratic protective security is reinforced through education and continuing professional development (CPD) education for built environment design, planning, security, and property practitioners as well as for those responsible for ongoing maintenance of the interventions.

Finally, community consultation is identified as an essential component of successful design and implementation of CTPS in the public domain. The NYC case study demonstrates the benefits of consultation to ensure that that potential issues are identified early in the design process and that CTPS implementations are acceptable to and accepted by the community.

Building on the lessons from this case study, we recommend that a supplementary design guidance document is developed to practically assist built environment practitioners in the effective implementation of *Australia's Strategy for Protecting Crowded Places from Terrorism*. The supplemental guidance document should emphasise the importance of consultation early in the design process, with a focus on enhancing the democratic value of the public domain and include community consultation requirements and provide tools to undertake this engagement on a complex topic. Design guidance included should demonstrate a variety of approaches to stealthy intervention, but also include guidance for invisible and overt intervention, accessibility of CTPS interventions for people with disabilities should be included in each of these discussions. Maintenance and adaptability should be discussed so that these considerations can be integrated into the long-term plan for the place. This will help to ensure that CTPS is implemented in such a way that it not only protects public places but also contributes to good placemaking outcomes and addresses ethical and accessibility concerns. This approach would assist in the advancement of *democratic CTPS* in the public domain.

6 Conclusion

This paper offers policymakers and practitioners in Australia insights into the effective and democratic implementation of CTPS supported by insights from NYC. By focusing on how CTPS guidance documentation can be implemented in an accessible and democratic manner, this paper addresses an under-researched topic. The research demonstrates how democratic CTPS can be achieved in the Australian context by recommending a general preference for stealthy security measures in the public domain, avoiding unnecessary complex mechanical interventions, considering accessibility for pedestrians, cyclists, and people with disabilities, and highlighting the importance of community consultation. While this paper is focused on insights relevant to the development of the Australian guidance documentation, it is applicable to anyone seeking to implement the principles of democratic CTPS in the public domain.

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