

Incentivising Counter Terrorism in Commercial Real Estate, Soft Targets & Crowded Places

Protecting Commercial Real Estate and Crowded Places from Terrorism: Incentivising the introduction of counter terrorism protective security measures in the Real Estate Development Process

Abstract

Increasingly, commercial real estate and crowded places have become common targets for terrorist actions. Despite this, little empirical research exists explaining how such locations could be made more resilient, particularly in the context of new developments. The research presented in this article contributes to filling this gap by identifying what may potentially incentive real estate developments to include counter terrorism protective security measures in future commercial real estate and crowded places schemes. The research is based on a sample of 142 interviews conducted in the UK, US, and Australia, with the findings highlighting that incentivisation is both complex and varied.

Introduction

In recent times, significant terrorist attacks have occurred in major cities globally with a shift in focus away from disruptive attacks on critical infrastructure, towards high impact-low sophistication attacks in commercial real estate assets and crowded places¹. These incidents have resulted in significant loss of life, as well as considerable property damage, reputational damage, and socio-economic loss. In parallel, they have posed complex questions for policy makers on how best to enhance the resilience of commercial real estate and crowded places from the threat that emanates from terrorism, while ensuring that these locations function as they were originally intended. In responding to these questions, western governments have

¹ In the context of this research, crowded places include entertainment complexes, stadia, bars, pubs, nightclubs, hotels, shopping malls, places of worship, iconic sites, urban spaces, and educational institutes

published extensive guidance such as the '*Crowded Places Guidance 2017*' by the National Counter Terrorism Security Office in the United Kingdom and '*Australia's Strategy for Protecting Crowded Places from Terrorism*' which was introduced in 2017 as a consequence of the continuing threat trajectory. These documents serve to provide both a strategic and operational framework for owners, managers and operators of these locations for introducing counter terrorism protective security measures both proportionally and for enhancing their maturity to the threat.

Building on the threat landscape and these guidance documents, research by McIlhatton et al. (2018) explored how the real estate development process could potentially be used as a framework for maximising the resiliency of commercial real estate and crowded places from terrorism. It focused on understanding how the different sectors (architects, investors, developers, planners, engineers, project managers, construction management, and urban designers) involved in real estate development considered the threat from terrorism and identified prominent barriers which needed to be overcome in order for counter terrorism to become a key consideration. However, little empirical evidence exists in the current literature base to understand how the consideration and implementation of counter terrorism security measures could be enhanced more rapidly, particularly through the real estate development process.

The research presented in this article seeks to help fill this gap by developing an understanding of what would incentivise commercial real estate and crowded places developments to include counter terrorism as a core consideration within their decision making process and provides an evidence base for those developing resilience policies, as well as those developing sites. In order to achieve this, the article is structured as follows. Section 2 provides an analysis of the current literature base relating to real estate and counter terrorism; Section 3 details the

methodological framework used in the empirical stages of this research, with Section 4 and 5 presenting the results and recommendations of the research. Section 6 illustrates the conclusions.

Literature review

Terrorist actions in urban areas is not new and has been a frequently occurring phenomena resulting in significant challenges, particularly for the reputation of cities as safe places to live, work, visit, learn, socialize, and invest. Indeed, the epicentre for these actions has primarily been within areas of commercial real estate, and in recent times, crowded places, with trends indicating that frequency and intensity of these attacks has been on an upward trajectory (Christensen et al., 2017) with many motivating factors. Despite this, there is limited scholarly attention paid to understanding how best to enhance the resilience of such locations, with the majority of focus in terrorism disciplines directed towards preventing people from engaging in terrorism. From a real estate perspective, even less exists, with the majority of research analysing markets post-attack (DeLisle, 2001; Dermisi, 2007; Abadie and Dermisi, 2008).

Terrorism and Real Estate

The relationship between real estate and terrorism has historically received limited attention in the scholarly discourse, although the events of 9/11 refocused research agendas and began to ask questions that were not considered in any great detail previously within academic and practitioner communities. One such area was that of the impact of terrorism on real estate markets, with Dermisi (2007) highlighting the significance of the 9/11 attacks on Class A office space in New York City, with a total of 30 million square feet (11% of Manhattan Class A space) damaged or destroyed (The City of New York, 2001). This generated a step-wise change in thinking of real estate market analysts who were becoming much more alert to the threat of

terrorism within global cities and the potential impacts that such events could have (Abadie and Dermisi, 2008). In parallel, this also signalled a shift in the mentality of potential investors and lessees who were now acknowledging terrorism in their decision making. Research conducted by Johnson and Kasarda (2003) demonstrated that the site selection process for office space changed in response to the threat with evidence suggesting that demand for iconic buildings was challenged by perceptions of safety, as were tall buildings (over 30 stories), properties in proximity to these types of buildings, and also those that were situated in the vicinity of critical infrastructure assets and mass gathering locations such as stadia and retail complexes. In a similar vein, Mills (2002) evaluated the effects of terrorist attacks on office activities and argued that there was potentiality for a shift away from tall buildings in CBDs towards demand for smaller suburban buildings and in smaller metropolitan areas. In other research, Dermisi (2006) examined the effect of terrorism threat on ‘trophy buildings’ and their surrounding areas in Chicago and found that commercial office owners and their management teams reacted to the 9/11 events by deploying new security measures.

In the context of real losses, terrorism has had a substantial impact in many cities, globally. In the United Kingdom, examples include the Provisional Irish Republican Army (PIRA) detonating a large truck bomb in Baltic Exchange, London in 1992 which resulted in damages totalling \$1billion (Cain, 2017). Another attack in Bishopsgate, London in 1993 by the same perpetrators generated damages between \$1.3billion and \$2.5 billion (Cole et al., 2011). In Oklahoma City, an audit carried out on behalf of the State of Oklahoma estimated that the 1995 Alfred P. Murrah Building bombing resulted in property damages of approximately \$652 million (KPMG et al., 1995; McIlhatton et al., 2018). The events of 9/11 resulted in property and casualty claims of approximately \$40 billion, with nearly 18,000 small businesses dislocated, disrupted or destroyed (Makinen, 2002).

More specific examples of terrorism impact on real estate emerge from the hotel sector. STA (2016) analysed the impact of terrorism on Europe's hotel industry. According to their data and analysis, hotel markets experienced stabilised performance results within approximately three months following a terrorist attack. STR analysed four instances in which a major European Market was attacked by terrorists, beginning with the Madrid train bombings as well as markets in London, Paris and Belgium. They found that attacks in those markets had a greater impact on occupancy levels than on Average Daily Rate (ADR). For example, following the 7 July attacks in London, hotels experienced average year-over-year rate growth of 3.2 per cent in the three months following the event. However, occupancy dropped 15.1 per cent, 5.2 per cent and 1.9 per cent in the subsequent months before seeing a rise of 1.0 per cent in the November.

In the wake of the Madrid train bombings in March 2004, STR (2016) found that occupancy fell 12.7 per cent in April, in July of the same year occupancy was still down 5.5 per cent. However, the markets ADR decreased 7.4 per cent in April, decreasing by an average 13.5 per cent over the following three months. STR (2016) noted this three month recovery pattern for occupancy was repeated in Paris following the November 15 attacks. After the Brussels attack on 22 March 2016, occupancy levels declined sharply 19.6 per cent to 57.7 per cent for the entire month. However, ADR remained positive (+1.1% to EUR121.65) and in line with historic levels.

Accor, Europe's largest hotel operator, saw a 3.5 per cent like-for-like increase in operating profit despite the terror attacks in Paris in 2016 (Thomson, 2016). Accor own both high-end and budget brands such as Ibis. In a statement, the chief executive described Accor's performance as 'outstanding'. Nevertheless, Accor's RevPAR in the Paris region was down 3.4 per cent over the year, a result of the November 13 terror attacks which killed 130 people

(Thomson 2016). The attack on a hotel in Tunisia in the Port El Kantaoui region in 2015 cost the industry an estimated £32 million (Suder 2016).

Real Estate and Protective Security

More recently, the targeting of commercial real estate and crowded places by those inspired by international related terrorism has become a frequent occurrence and has re-energised thinking on how best to protect and prepare such locations from terrorism (McIlhatton et al., 2018). Examples include the terrorist attacks that took place in Paris in 2015, which saw entertainment venues, restaurants and bars, and a football stadium targeted by marauding gunmen and suicide bombers, the attacks at Brussels airport and metro station in March 2016, the Berlin Christmas market attack also in 2016, and the suicide bombing which occurred at the Manchester Evening Arena in May 2017. In response to these events, and those discussed previously, western governments have revised and produced numerous guidance documents for commercial real estate and crowded places. In 2017, *Australia's Strategy for Protecting Crowded Places from Terrorism* was launched, as was the UK *Crowded Places Guidance 2017* by the UK National Counter Terrorism Security Office (NaCTSO). These strategies were designed to act as a basis for operators and owners to enhance the resilience of such sites. Despite this focus, there is a significant gap in the current knowledge base highlighting what would incentivise these owners and operators to introduce counter terrorism measures in to new commercial real estate developments. This research is designed to help fill this gap.

Methodology

The methodological approach underpinning this research study utilises a qualitative framework which was conducted in three international jurisdictions, namely, the UK, US, and Australia. The study was conducted between February and November of 2017 and focused on two

fundamental research questions, 1) what would incentivise the consideration of counter terrorism measures within commercial real estate and crowded places developments and 2) what recommendations would those involved in the development process present as possible options for raising awareness of the threat from terrorism within real estate. The research is based on a sample of 142 interviews which were carried out in cities including, Belfast and London in the UK; New York City, Oklahoma City, and Atlanta in the US; and Sydney and Canberra in Australia.

Research Data

The research data was obtained from in-depth, semi-structured interviews with professionals working in the architecture, urban design, engineering (structural, civil, electrical and mechanical), planning, project management, local government representatives, real estate development and investment sectors in the locations identified previously. It adopted a snowball sampling method with the first cohort of interviewees identified through the research teams existing networks. Further participants were identified through recommendations received from the first cohort with the research team ensuring that the recommendations were appropriate, and were currently or had been previously actively involved in the development of commercial real estate and crowded places.

The rationale for using an interview based approach was to gain both breadth of information and a depth of understanding of the potential methods for incentivising the consideration of counter terrorism security measures in developments. The UK, US and Australia (and the cities where the interviews were conducted) were selected as the research study areas due to three underpinning determinants identified in McIlhatton et al. (2018). Each city has either 1) had a recent international-related terrorist attack 2) has developed strategies for protecting

commercial real estate and crowded places; or 3) is a global city attracting significant numbers of visitors each year to their diverse network of crowded places.

The interviews took place at the offices of the participants and were conducted within each study area until saturation of information was reached within each professional sector. This required 56 interviews to be conducted in the US, 54 interviews in the UK, and 32 interviews in Australia – resulting in a total sample of 142 interviews. The saturation point in Australia was lower as a possible consequence of it having a smaller property market with fewer organizations involved in the development of crowded places. In contrast, the US and UK have a larger sample of organizations working on crowded places development, with many of these having multiple offices located in cities across the country resulting in a larger sample in these countries before saturation was reached.

Semi-Structured Interview Questions

The questions used in the interview process were developed to empirically test the two fundamental research questions using a structured interview format. These questions were tested and refined through a piloting process, that included 10 semi-structured interviews with professionals in the UK representing both practitioners involved in commercial real estate and crowded places development and in counter terrorism protective security. In doing this, the research was able to ensure logical sequencing and coherency of questions, ensuring they were appropriate for those participating in the empirical stages of this research. The pilot testing process also facilitated an understanding of the likely time it would take for each interview to be conducted, as well as guiding the research in addressing the critical gaps identified in the literature. In response to the outcomes of the pilot testing, the interview questions were refined and all interviews that were conducted, utilised the same questions and structure, thus allowing comparability of results.

Results and Findings

The results presented below are concerned with addressing two key questions, what would incentivise commercial real estate and crowded places developments to consider and introduce counter terrorism protective security measures; and how could counter terrorism measures be enhanced in the future. This section therefore addresses these two questions through a sample of 142 interviews across the three jurisdictions.

Methods for incentivizing the implementation of Counter Terrorism Protective Security Measures

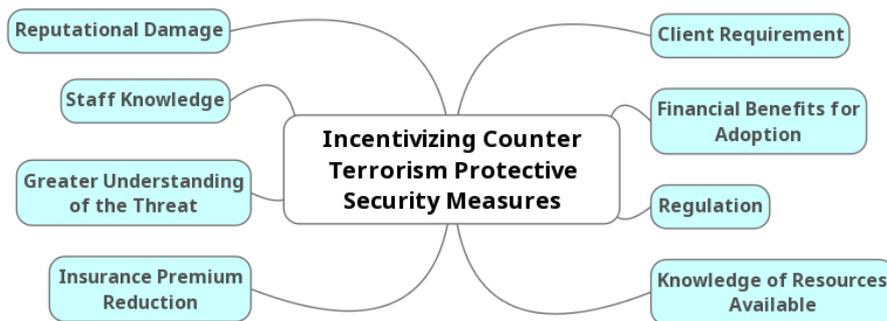
Past research (McIlhatton et al., 2018) identified that many factors potentially inhibit the introduction of counter terrorism protective security measures. In this regard, it is important to identify the vehicles that would help overcome these barriers and consequentially enable and incentivize these measures to be introduced at the earliest possible stage. Indeed it is also important to address fundamental issues such as who should pay and what kind of financial delivery methods could be utilized to encourage uptake in the development of these locations.

Incentivizing the introduction of counter-terrorism security measures at the earliest stage of development process

A plethora of options for incentivising the consideration and adoption of counter terrorism protective security measures were discussed by the respondent community, and while it was acknowledged that many options were available, there was significant complexity in achieving buy-in across the development industry as a whole. Most of this consternation centered on key challenges such as ‘is there a benefit in doing this?’, ‘do we have to do this?’ and ‘are we actually at risk?’ with some responses suggesting that until these questions are answered, then ambivalence will continue. Nevertheless, key understandings were achieved on what would attract those engaged in the development process to be mindful of counter terrorism with key

themes emerging. While some of these incentives are obvious, such as government grant aid and regulation, other responses open up potential avenues of opportunity for law enforcement, government and professional bodies, to encourage the considerations of terrorism as a core development threat within commercial real estate and crowded places. The incentives identified are presented in Figure 2. This list is not exhaustive but aggregates the responses in to common themes with descriptive narrative provided detailing the rationale behind why these themes are considered incentives.

Figure 1. Potential Incentives for the Adoption of Counter Terrorism Protective Security Measures in Commercial real Estate and Crowded Places Developments



Governance and Regulation

Concerning the critical issue of governance, the evidence that emerged from the interviews suggested that the stakeholder community placed importance on the need for a regulatory environment if counter terrorism is to be considered as a core component of a new development. Without such governance, it was felt that it would be difficult to gain momentum given the complexity of the number of players involved in the development process. Governance in this context was not considered purely from a government perspective, but instead included stakeholders such as investors, designers, and the professional bodies, all of which have a fundamental influence on the implementation of effective security considerations

within real estate developments. From an investment perspective, respondents discussed the importance of the investor in establishing the criteria for financing such developments. It was believed that if greater importance was placed on aspects such as safety and resilience from challenges such as terrorism, then the development community would respond more positively towards the consideration and inclusion of counter terrorism protective security. Similar anecdotes were realised for sectors, such as planning (development control and master planning), where respondents believed that regulation would shape the approach taken by those planning and developing crowded places.

Respondents also suggested, albeit cautiously, that if the development of commercial real estate and crowded places is to proactively consider terrorism in the medium to long term (5-10 years) then this must be done from a framework that does not detract from high quality design, functionality of space, and user experience. Evidence suggested that the only way to do this was to mandate this from the earliest possible stage and to build this framework in partnership with all industries involved. Some evidence drew on the approach in the UK which is delivered by the Counter Terrorism Security Advisor network through the National Counter Terrorism Security Office (NaCTSO), a specialist police unit that supports the ‘Protect’ and ‘Prepare’ strands of the UK Counter Terrorism Strategy. This was identified as a potential delivery model for such a framework but it was stressed that any developed framework must extend from the site selection phase through to the hand-over and continued operations of that crowded place.

That said, the sentiment across the respondent community highlighted ambivalence towards the notion of a government mandate on such measures with many suggesting that such an approach was not proportional to the threat and that a ‘blanket scheme’ in the short term would not be favoured – although an environment whereby it could be formally considered, and not mandated, would be a welcome first step in the process of becoming a mainstream activity.

This was furthered by some responses suggesting that a tiered radial system, in the first instance, could be utilized to mandate sites of substantial size and importance and then operate a 'risk radius' of crowded places from that site.

Client Requirement

Evidence suggested that the importance of client requirements in the production of a development brief is necessary in addressing the significant challenges of counter terrorism in the design, development and management of commercial real estate. The majority of respondents to this research highlighted that if counter terrorism protective security was to become mainstream, or at the very least a core consideration in developments, then this must be evident in the development brief and therefore part of the thinking prior to the writing of the project requirements. If measures related to counter terrorism protective security are included, then this would facilitate inclusion from the earliest stages of the development process and eradicate any retrospective challenges such as cost and design. Indeed, tenant requirements were also identified as essential and respondents argued that if tenants stipulated a requirement for such security features then these would almost certainly be included. In line with this, it was felt that educating clients would be a core part of the incentivisation process, as without government regulation, it would be down to the goodwill of the client to ensure that such measures were incorporated.

Staff Knowledge

A further incentive identified was that of the knowledge of staff in organisations responsible for developing commercial real estate and crowded places. Achieving high quality design, enhanced user experience and ensuring sites function as originally planned is dependent on the quality and knowledge of the people involved across the entire development process, including

their respective skillsets. However, there was an opinion that outside of the large multi-national contractors, there was a distinct knowledge gap within the respective professions (engineering, real estate development, architecture, urban design, planning and the other associated disciplines) on the understanding of terrorist threat and good practice mitigation measures. Consequentially, feedback suggests that this has resulted in a lack of consideration within the professions responding to the project requirements, as well as reflected in the design.

In order to remove this barrier and fill the knowledge gap that may potentially exist, results highlighted that this could be achieved through a number of key pathways based on education, innovative and integrated thinking, and professional body emphasis. From an educational perspective, it was identified that many design, engineering, planning and real estate programs in tertiary education do not include challenges, case studies, or considerations of terrorism or counter terrorism in their curricula and as a consequence, the graduate pipeline and supply chain, are not mindful of terrorist threats. In challenging this, some respondents believed that if 'terrorism as a concept' was included as an element within degree programs, then this would incentivize considerations and approaches of graduates when they enter employment.

Reputational Damage

Feedback from the interviews highlighted that the concept of reputational damage arising from a terrorist attack either directly, or in proximity, to their brand and assets, would almost certainly act as an incentive for considering counter terrorism protective security measures. This highlighted a need for the development community to be more aware of the reputational issues that can arise if a terrorist attack was to occur at their site, or in close proximity. Indeed, one anecdote from a law enforcement background highlighted the significance that understanding the impact on a company's reputation can have.

"...at the outset [of initial engagement], there was total reluctance to engage. Then I had the good fortune of bumping in to the then chief executive [...of the development]. Having secured a presentation to him and his top team, I didn't really feel I was making headway during the presentation - yes they were respectful and were earnestly listening to the design-in CT pitch. But it wasn't until I indicated the 'what if the site is lost to a terrorist attack' impact on the company's and country's reputation that the lights really switched on and the weight of responsibility of not accounting

for CT made its mark. After that, heaven and earth couldn't stop CT being designed in, albeit, at later stages of the project. It went as far as government funding being secured for the hostile vehicle mitigation system"

Similar experiences were discussed across the stakeholder grouping with many indicating the influence that the media had on decision making, particularly when their brand and development are broadcast globally as a consequence of an attack occurring. Examples such as the Paris hotel market, and Paris as a tourist destination, as well the Sousse event, were discussed by some respondents who were very much of the view that one attack could have major effects for local economies.

"The impact of some attacks are frightening. They destroyed local economies such as that in Tunisia and put people off visiting Paris after their attacks. The tourism statistics are obvious. There has never been a greater need to create and promote safe places if we want to keep people coming and maintain our reputation".

Indeed, responses also drew inference to the terrorist attack at the Manchester Arena where a major global artist had been playing a concert. They suggested that organisers become incentivised when they find it hard to sell tickets and when big artists and events will not come as a consequence of perceptions of safety. This then drives a process of change, in the context of security, and evolves from a business challenge to a political issue which on many occasions acts as a catalyst for such challenges to be addressed.

Insurance Premium Reduction

The significance of the role of the insurance industry in incentivizing counter terrorism protective security was evident through many responses in all jurisdictions. A general view was felt that the premiums associated with insurance can influence the requirements of prospective buyers, tenants, and end users of crowded places, and as such, have the potential to enhance developer consideration of measures for counter terrorism. That said, evidence suggested that this could only happen if first, the insurance industry were much more proactive in developing and marketing innovative products. Second, if developers were able to utilize a tool to demonstrate how much of a reduction in insurance premium would be available for prospective tenants and purchasers in advance of a sale, lease and development. This could then be used when marketing the assets as a selling feature. Third, some believed that government should stipulate that it is a requirement of the insurance industry to ensure that terrorism products were mandatory and not optional, at least on a tiered risk level. Fourth, the products that would be developed would need to recognize that not all sites are the same, and as such, products need to be reflective of this, with an approach that allows crowded places sectors to build up their resilience over time, if they are starting with nothing or very little. While it was acknowledged by some that this was already being done to an extent through re-insurance products, particularly in the United Kingdom such as that of Pool-RE, it was felt that this needed to become a mainstream offering if uptake was to be significantly enhanced.

The importance of the insurance industry was further exemplified through its role in mitigating the impact of other fundamental challenges such as climate change and it was felt that a similar approach could be adopted by the insurance industry for mitigating terrorism.

“...the Insurance Council of Australia has led much of the best climate change research and produced some very mature climate modelling. They have worked out that they have an incentive in reducing peoples risk, particularly with all the natural disasters over the past few years and now insurance companies are replying by sharing the models to help reduce the risk profiles of clients.”

Understanding of Threat and Knowledge of Resources

Responses obtained also highlighted that further incentives for including counter terrorism counter security measures in the development of crowded places and public spaces centered on enhancing the knowledge of the threat landscape among those engaged in the development process. In addition, narrative suggested that a greater marketing of the resources that may be available from a counter terrorism perspective was also vital for gaining greater consideration and consequentially, uptake.

Many respondents, particularly those representing small and medium sized organizations, and who didn't have in-house security advisors, indicated that they were not aware of the terrorist threat, other than what they saw on television and other media sources, and how that threat related to them. Many had never had any consultation or communication with law enforcement, unless it was on a government development or critical infrastructure/ critical national infrastructure project, and did not know where to go if they sought such information. As a consequence, the threat of terrorism, on many occasions, was not explored fully, or at all, by those organizations - especially if not specifically asked to consider them by the client. When explored further, many smaller organizations were unaware of protective security advisors, their roles, or the resources they provide, with many believing that greater interaction with this community would incentivize them to think about it more fully.

“Knowledge of what resources are available is the starting point for incentivisation. People don't know who to go to or what services are available and this is a barrier that we need to overcome. If we can turn this in to an incentive, where the owners and developers see it as an opportunity, which is free, then this might encourage greater awareness. If people are better informed and aware, then they are usually more mindful and you have a greater chance of success of getting buy-in”

Financial Incentives for Adoption

Many potential examples of financial incentivisation were discussed, including that of insurance premium reductions, across the respondent community. That being said, most of these related to government sponsored programs for off-setting the cost of counter terrorism protective security measures such as hostile vehicle mitigation. The financial incentives discussed, include:

- Government grants: responses indicated that the primary incentive for including counter terrorism measures would be to off-set the cost of these features for developers. This could be achieved through the provision of grants for enhancing counter terrorism

measures from the earliest possible stage. These grants would need to encourage thinking right back to concept design and influence the approved development from both a physical and personnel based posture. It was felt though-that these needed to be decided by independent design professionals (and other professionals across all disciplines involved in the design and build phases) and not purely by people assessing from a security background. This was to ensure the maintenance of high quality design, functionality, and user experience.

- Tax based incentives: Such incentives were highlighted as an important way of absorbing the upfront capital costs of introducing counter terrorism measures and recovering these through tax-based rebates or reductions if certain criteria were met.

“If security measures are absorbed as a capital cost, then can this capital cost be rebated over time through rates relief or corporate tax relief or grant funding? This would definitely be an incentive if off our balance sheet, but most important to us is ensuring user experience and safety at our sites. If it needs to be put in, we will deal with that. But it would be much easier and more efficient to have this sort of help in doing so.”

In contrast, consternation existed on whether tax relief would be an effective long term strategy or solution as they did not believe that they would receive buy-in from government to do this as there is only so much that can be rebated as similar schemes exist for sustainability/ climate change and other features.

Paying for counter terrorism protective security

Many organizations concerned with the development, maintenance and refurbishment of real estate know relatively little about the true cost of counter terrorism or the potential return on investment. Indeed, it is almost impossible to ascertain whether the measures that you may adopt are ‘performing well’ or are ‘effective’ in countering and mitigating the threat, risk and harm of terrorism – unless an attack occurs. As a consequence of this, and due to the difficulties in defining counter terrorism resilience, the key question is, what does counter terrorism resilience look like? It is of little surprise that major differences emerged on who should pay for these measures to be within crowded places and public spaces.

Much of this debate was concerned with the investor/developer versus client and is similar to that which has emerged with other features (such as green features, smart technology, security at airports). Indeed, responses also detailed a diverse range of methods for how the cost could be covered by both the investor and/or end user – it was however acknowledged by some that the end user will always end up paying. Others proffered that if government require it, then government should pay for it. If they do not require it, the likelihood of uptake will be reduced unless it is required by the client – which in that case, the cost will be absorbed by the end user.

More generally, commonality existed in the methods proposed by respondents and these have been grouped in to distinct themes to facilitate understanding and are presented below.

Developer led	<ul style="list-style-type: none"> • Developer absorbs cost as part of corporate social responsibility and therefore pay up-front costs of protective security in line with their desire to create safe spaces and places. • Where the developer is the occupier/end user, the cost will be absorbed by developer • Developer led if they are incentivized to include such measures such as grants or other financial delivery models
Developer absorbs cost and passes on to client	<ul style="list-style-type: none"> • The upfront costs should be absorbed by the developer and passed on to the end user. • This cost transfer could be facilitated through a ‘security premium’ added to the sale or lease price of the asset which then is reflective of the investment made, or which enhances the marketability and lease potential and duration of that asset • Developer makes investment in counter terrorism protective security measures and then recovers costs, either fully or in part, through service charges
Client led	<ul style="list-style-type: none"> • Client requires measures to be incorporated from start of development process and as a consequence, is willing to account for this in the development budget • Client absorbs cost of development and then passes on to end user through a small ‘security service charge’ for events such as concerts, sporting events, markets, conventions and other paid events (by either attendee or exhibitor). A similar approach to airports could work towards covering such measures.

Conclusions

A key conclusion of this study is that the incentivisation of counter terrorism protective security measures in new commercial real estate and crowded places developments is both complex and varied with multiple opportunities available. An original contribution of this study is the highlighting the potentiality of the real estate development process for enhancing counter terrorism, as well as what the fundamental factors that would encourage inclusion. This study, by identifying these incentives, provides a potential evidence base from which policy makers can seek to inform future strategies, particularly those concerned with the development of commercial real estate and crowded places.

The research presented in this article contributes to the current literature on the potentiality of the real estate development process for counter terrorism. It does so, by developing a baseline of factors that could incentivise the consideration and inclusion of counter terrorism within future developments. The findings highlight a range of factors including financial assistance, education, insurance premium reductions, and others, as potential areas of incentivisation.

The significance of the results extend the existing research base and provide an opportunity for policy-makers and those developing future schemes to understand how counter terrorism measures could become a core consideration of the real estate development process. This significance is not restricted to the geographic extent of this research, but instead, has the potential to be an international resource for overcoming potential barriers to inclusion.

References

Abadie, A. and Dermisi, S, (2008). Is terrorism eroding agglomeration economies in Central Business Districts? Lessons from the office real estate market in downtown Chicago. *Journal of Urban Economics*, 64 (2) 451-463

CAIN (2017). Conflict and politics in Northern Ireland. Retrieved from <http://cain.ulst.ac.uk/othelem/chron/ch92.htm#Feb>

Christensen, P, McIlhatton, D., Bonney, C. and Blair, N (2016), 'Multi-Purpose 3-D Real Estate: Understanding the Role of 3-D Technology for Enhancing Resilience' *Journal of Real Estate Literature*, 24 (2) 453-472.

Cole, J., Watters, M., & Lynch, M. (2011). Part of the problem: the crowd's role in emergency response. *Contemporary Social Science*, 6(3), 361-375.

DeLisle, J.R. (2001) Real Estate and Capital Markets: A Special look at the Impact of Terrorism. *The Appraisal Journal*. 70 (1) 10-20

Dermisi, S. (2006) Recovering From An External Economic Shock: The Effect Of Terrorism Threat On Chicago "Trophy" Buildings and Their Immediate Area. *Journal of Real Estate Literature*. 14 (3) 401-421

Dermisi, S. (2007) The impact of Terrorism Fears on Downtown Real Estate Chicago Office Market Cycles. *Journal of Real Estate Portfolio Management*. 13 (1) 57-73

The City of New York, Office of the Comptroller (2001) The Impact of the September 11 WTC Attack on NYC's Economy and City Revenues. New York

Johnson, J.H. and Kasarda, J.D. (2003) 9/11 Reassessments of Urban Location Costs and Risks. *Real Estate Issues*. 28 (2)

Mills, E.S. (2002) Terrorism and Real Estate. *Journal of Urban Economics*. 51. 198-204

Makinen, G. (2002). The economic effects of 9/11: a retrospective assessment. Report for Congress, RL31617. Washington D.C.: Congressional Research Service, The Library of Congress.

McIlhatton, D., Chapman, J. D., Christensen, P., Berry, J., Cuddihy, J., Monaghan, R. (2018). Protecting Crowded Places from terrorism: An analysis of the current considerations and barriers inhibiting the adoption of counter terrorism protective security measures. *Studies in Conflict and Terrorism (accepted and in press)*.

KPMG Peat Marwick LLP, Adjusters International Inc., and Barrett Consulting Group (1995) The Estimate of The Governors Task Force for Damage Assessment for The Oklahoma City Bombing of April 19, 1995. Oklahoma.

STR (2016) 'Analysing the impact of terrorism on Europe's hotel industry' Hospitalitynet. Available at: <https://www.hospitalitynet.org/news/4075814.html>

Suder, G. (2016) 'Fifteen years on from 9/11, we calculated the true cost to business' *The Conversation* Available at: <https://theconversation.com/fifteen-years-on-from-9-11-we-calculated-the-true-cost-to-business-64659>

Thomson, A. (2016) 'Accor rolls with impact of Paris terror attacks and raises profit' *Financial Times* [Online] Available at: <https://www.ft.com/content/58509842-d614-11e5-829b-8564e7528e54>