Focusing On Behaviour Will Benefit Design

By: Cst. Tom McKay

Jane Jacobs, the legendary author who wrote the Death and Life of Great American cities and in the process influenced generations of planners and, later, legions of Crime Prevention Through Environmental Design (CPTED) practitioners, once said "nothing is harder than to see clearly and accurately. Most people hardly look at all and those who do, tend to see only what is expected". As a longtime CPTED practitioner, and more recently the developer of Behavioural Based Design, a new and evolutionary design concept introduced in the May 2004 issue of Security Management, I am in a unique position to vouch for the veracity of this statement.

For over 12 years, I approached security matters from a CPTED perspective. CPTED practitioners believe that the proper design and effective use of the built environment can reduce the fear and incidence of crime while improving the quality of life. While the application of CPTED principles will often yield a positive result, its overriding belief in the environment's ability to influence crime and criminal behaviour is a limiting factor that "downplays the ability of individuals to select and to choose, to arrange and change the environment to fit one's needs"[1]. It's this faith-like allegiance to environmental determinism that ultimately keeps them from seeing clearly and accurately, just as Jacobs had said.

The same cannot be said of authors who base their conclusions about the effectiveness of environmental design factors on their observations of people's behaviour. These authors routinely demonstrate their Jacobesque ability to "see clearly and accurately" by reporting significant behavioural deviations as they relate to CPTED expectations.

Such is the case with my earlier article on Behavioural Based Design and a related article on bank robbery entitled "Does CPTED need to be revised?" – see the December 1996 edition of Security Management magazine. Others, such as Atlas, Merry, Zahm et al., have also documented significant departures in behaviours that are normally expected when CPTED is applied.

In the case of Sally E. Merry (1981), a critical distinction was developed between the concept of defensible space and space that is actually defended. This occurred after Merry studied a four-story building in which the majority of the robberies occurred in areas which were architecturally defensible in accordance with Newman's criteria. As a result of that study, Merry recognized that "design has the potential for releasing defensive behaviour but only under certain social conditions".[2] She further recognized that "youths assess these social factors as well as design features in their locational decisions about crime"[3]. This ultimately gave rise to the concept of "undefended" space, a term associated with Merry.

Architect, criminologist and prolific CPTED author Randy Atlas documented a further behavioural deviation in 1991, when he developed the concept of "offensible space", sometime known as "reverse" CPTED. Atlas found that "environmental design modifications have actually been used by criminals to their own advantage"[4]. In a study of 21 crime sites, Atlas reported that criminals such as gangs, drug users, drug dealers and stolen property fences, "use defensible space features to spot the police and outsiders, survey others approaching the area, report problems to those in command, provide a communications network to warn of approaching police and change the environment to slow down police entry"[5].

More recently (2001) Diane Zahm, Ph. D., R. Bruce Hull, Ph.D., and Sean Michael Ph.D. completed an extensive study on auto burglary that revealed offenders engaged in significant behavioural adaptations as a result of their exposure to a variety of opportunities and risks presented by a range of "situational factors". The authors developed this insight by breaking down the act of auto burglary into seven discernible steps which the authors referred to as "scripts".

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[1] E. Krupat, 1985 People in Cities, The Urban Environment and its Effects, Pg. 12
[2] Sally E. Merry, Defensible Space Undefended Social Factors in Crime Control Through Environmental Design, Urban Affairs Quarterly, June 1981, Page 398.

[3] bid, Pg 418
[4] Steve Schneider, Patty Pearcey, 1996 The Theory and Practice of Crime Prevention through Environmental Design A Literature Review, Pg. 16
[5] ibid

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The first script, referred to as the "select act", revealed just how quickly offenders adapted their behaviour when opportunities for physical concealment were limited. This was demonstrated in all four locations where cover vegetation was either not available or had been removed -- the latter being the result of a CPTED intervention – when the offenders were observed to engage in a behavioural adaptation that the authors referred to as "purpose concealment".

Purpose concealment, as defined in the study, typically led to offenders "doing what is expected for an area"[6] in an attempt to hide their real intentions. This included legitimately gathering near food sources to sit, watch and eat; meandering through a parking lot as if returning to a car; lying on grates as a homeless person would or circling the lot in a vehicle on the pretence of looking for a parking spot.

These actions were in marked contrast to the behaviour observed at the study's four other locations where offenders used the abundant physical cover in the form of available vegetation to hide from view. This behavioural adaptation and a related conclusion that purpose concealment had become "a critical component of selection behaviour"[7] clearly demonstrates the diminished ability of environmental factors to influence behaviour and, by extension the deterministic premise upon which CPTED is based.

Further evidence of behavioural adaptation could be found during the "approach" act. During this phase of the burglary purpose concealment continued to be a significant factor when offenders were observed to arm themselves with a newspaper which they would strategically use to create an excuse for bending over while near a vehicle that they were interested in taking a look in.

This was no longer the case, however, once the vehicle was stolen. Analysis of the "escape act" revealed that at this stage of the burglary, physical concealment had once again become an important factor as travel only continued until the offender reached "a location with enough physical concealment to allow him to examine the stolen articles without being observed"[8].

The importance of physical concealment continued to assert itself during the "examine act". During this act concealment was seen as critically important due to the inherent risks associated with an overtly suspicious search of a stolen purse or suitcase. The study's informants underscored this point by suggesting that "cars parked in places without accessible examination areas are much less likely to be burglarized"[9]. This has huge implications for environmental designers as it suggests that certain structures such as stand alone restrooms should be kept far enough away from parking lots that the distance to these structures creates a discernible risk in the minds of offenders while not compromising personal safety in general.

What is critically important here is the idea that careful analysis of behaviour will produce an accurate understanding of how auto burglars relate to their environment. Armed with this knowledge, security designers can make intelligent decisions about the design of these environments without relying on a conventional, one size fits all CPTED approach which, in certain circumstances, could actually produce a negative result. This would be the case if a food wagon, for example, was introduced into a parking lot area with open sight lines as such a strategy could readily lead to purpose concealment.

A better result is much more likely to be achieved if a Behavioural Based Design approach is used. Behavioural based design clearly recognizes the importance of behaviour as a determinant of design. In this way it is consistent with a lesser known but more pragmatic school of thought known as Probabilism. According to this model "the environment does not simply determine behaviour" but "makes certain choices more likely than others"[10]. It avoids the pitfalls present with environmental determinism by presenting a much more realistic view of the world where good and bad behaviour are supported rather than required and discouraged rather than prohibited. This model is increasingly catching the attention of some academics. Paul Cozens, David Hillier and Gwyn Prescott, for example, recently gave this model some prominence in their paper on residential burglary entitled Crime and the design of residential property – exploring the

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[6] Diane L. Zahm, Sean E. Michael, R. Bruce Hall, Environmental Factors Influencing Auto Burglary A Case Study Pg. 376
[7] ibid
[8] ibid, Pg. 380
[9] ibid
[10] E. Krupat , 1985 People in Cities, The Urban Environment and its Effects, Pg. 12

perceptions of planning professionals, burglars and other users Part 2. Others are simply paying more attention to the study of behaviour.

In an article on "Combating graffiti and vandalism in public parks" posted on the National Recreation and Parks Association web-site, Amanda Parker breaks down vandalism into ten different types noting that vandalism can be better prevented if one understands why it occurs. This type of research is invaluable to the behavioural based designer as it effectively provides the behavioural profile that I advocated in my earlier article. Armed with this type of knowledge, the behavioural based designer can make informed decisions about creating the type of environment that will support desired activities while culling the negative influences associated with whatever type(s) of vandalism they are likely to experience.

Fortunately this type of information is often readily available over the internet. I used this source of information, when I was challenged with developing a design response to a worrisome influx of teenagers into what was traditionally a local, family-oriented festival. The influx had become so severe that the youth effectively took over the town's main street, civic square and large plaza parking with an intimidating presence of people.

Given the temperament of the crowd, which is better described as a mob, a good understanding of its nature could be achieved by turning to research that focused on understanding riots. One such article, published by the Cato Journal effectively yielded a behavioural profile by characterizing the people who took part in such gatherings as "hooligans" who "thrive on action--relish getting drunk fighting, smoking dope" as they enjoy "the whiff of anarchy" and "make a point of being where the action is likely to start"[11]. The article also provided a number of other valuable insights on how large gatherings of people essentially communicate with one another and how the calculated act of a single person could spark a full blown riot.

Knowing this, it became a relatively easy task to develop an effective strategy that would disperse the crowd while it was still light out, then concentrate on monitoring and controlling "focal points", such as the civic square, with a police to population ratio that the crowd would respect. The same could not be said utilizing traditional design techniques alone, as its basic forms of information gathering -- observations and resident/user interviews -- would either be impractical or fall well short of developing the type of insight needed to tackle this sort of problem.

The response to behavioural based design has been extremely positive. It addresses many of the misgivings security professionals have with traditional design philosophies and provides a reasoned approach that is supported by the probabilism school of thought. It also pushes design based interventions well past their current limits and, in the process, exposes how people who practice traditional design approaches are prone to only see the obvious and fail to take into account people's basic versatility and their willingness to adapt.

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[11] David D. Haddock & Understanding Riots, The Cato Journal, Vol. 14, No. 1, Pg. 2