

**CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN:
Community Participation and Afterdark Design.**

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1.0 INTRODUCTION

Crime Prevention Through Environmental Design is a misnomer. Design alone cannot prevent (or cause) crime; but can enhance or diminish opportunity potentials in the built environment, and thus influence the extent to which criminal acts are more or less likely to occur. In other words, the environment has an in-built potentiality, or is predisposed towards accommodating certain situations, but does not cause behaviour to occur. Ultimately, this potential must be acted upon by motivated individuals. In the case of the criminal, someone motivated to act in anti-social ways; in the case of the community, legitimate users experiencing a sense of responsibility for a place, and being prepared to act upon those feelings in order to maintain, enhance or defend that place.

It is thus postulated that risk:reward-ratios in the criminally-intent mind are influenced by pre-disposing or antecedent socio-personal factors, environmental cues embedded in the built form, and the perceived sense of community responsibility prevalent in a place.

The approach taken in this paper is to address the security-by-design paradigm by elaborating on salient aspects of two essential, *sine qua non* elements of any situational crime prevention strategy - community responsibility and afterdark design. Essential aspects to be discussed include night animation, sightline design and 'soft architecture'.

2.0 AFTERDARK DESIGN

The emphasis on afterdark design is deliberate. Offences against people have a greater tendency to occur during the dark hours (Braithwaite & Biles, 1980)¹, when natural surveillability opportunities are lower, there is less chance of a victim being able to recognise an aggressor, escape is easier, other people are less likely to be around to act as potential deterrents or even interventionists, and so on. Both victimisation experiences and especially fear of crime and harassment are elevated at night (Samuels, 1995a)². When people are afraid to go out at night, or women are afraid to use public transport at night (Aungles et al, 1994)^{3 4} - termed 'avoidance behaviour' - the risk for those who do venture out is multiplied. With fewer potential witnesses or potential rescuers around, the isolation of night-time users is increased dramatically.

Avoidance behaviour influences the general ambience of a neighbourhood, or urban domain, or transportation facility, and sets a certain tone. If, however, large numbers of people felt confident to walk around at night, the situational opportunity for potential offenders would be totally different.

It is probably true to say that architects and urban designers do not imagine the settings they design as changing their 'personality' at night. If they did think of designing for the most vulnerable time of day and most vulnerable members of a population, a high degree of crime-prevention potential would automatically be built-in, to the benefit of all users at all times. Furthermore, the ability to see out, or survey activities occurring in non-private space at night must be balanced with privacy requirements *ie* controlling the ability of outsiders to see in. It is self evident that the

¹ The First Australian National Crime Victim Survey indicated that offences against the person occurred predominantly *at night* - robbery with violence 83% of the time, assault 70% of the time, and rape/attempted rape 60% of the time.

² Almost 3/4 of the 84% of respondents who felt unsafe in the DoH Warwick Farm study experienced this sensation at night.

³ The Illawarra train victimisation study indicated that women felt more insecure/vulnerable, and were much more likely than men to restrict their behaviour - 50% would not work late at night and then catch a train home, compared to only 5% of men.

⁴ Most station graffiti occurs in the off-peak hours and afterhours; and most reported robbery and assaults at stations occur (during the peak period and) late at night [18-24h period] (Jochleson, 1994).

design relationship between night, sight and light is critical to satisfying this dual need.

2.1 Night Animation

Associated with afterdark design is the generation of 'night animation' domains, an essential missing component in standard security strategies. Afterdark activity domains should be generated (providing the inherent community-opportunity structure) within the parameters of afterdark architectural design (providing the appropriate in-built potential). The intention here would be the eradication of dormant domains where legitimate users are afraid to be present and which are readily colonised by illegitimate usurpers, and their replacement with vital, energised interactional places where people feel secure and activities common during the daylight hours can continue late into the night.

Over thirty years ago, Jane Jacobs (1961) noticed that where there were 'eyes on the street' there was a different sense of community amongst people. This is also known as 'people policing' or 'natural policing'. Night animation as a community-design response would suggest that where appropriate night-time activities are juxtaposed physically in space, and integrated into urban domains, railway stations, mixed-zone residential neighbourhoods, and university campuses, *and* communities come to regard these places as their own (*ie* by being included in their design, management and beautification they become stakeholders) there is a strong likelihood that potential offenders will keep away from such places.

It is suggested that by inviting the community to beautify and decorate these domains, and to have a say in their design, they will be more likely to want to protect them. This is the issue of soft architecture, which is discussed later.

Naturally, when the afterdark activities are terminated or reduced to, possibly, only a few all-night stores, security must be proportionately increased, and accessibility proportionately decreased. This demands an inter-agency approach, where police, public sector security managers, private security companies, local councils, transport authorities, local business-owners and publicans, and community, church and tenant

groups collaborate, in partnership, to ensure the security and defensibility of these night domains.

In any event, such night domains need to be extremely carefully illuminated, the paths and routes to them and between them and public transport nodes equally so, and appropriate *sightlines* must be built-in (see below).

When sufficient places are thus designed and animated at night, the displacement of criminal activities (against persons⁵) should become further and further away from populated centres, until, hypothetically, only the most motivated or pathological individual would be expected to continue to seek a place where they can act out their criminal or anti-social intent. The risk:reward ratio would then have been tipped in favour of the community and against the would-be offender.

2.2. Sightlines

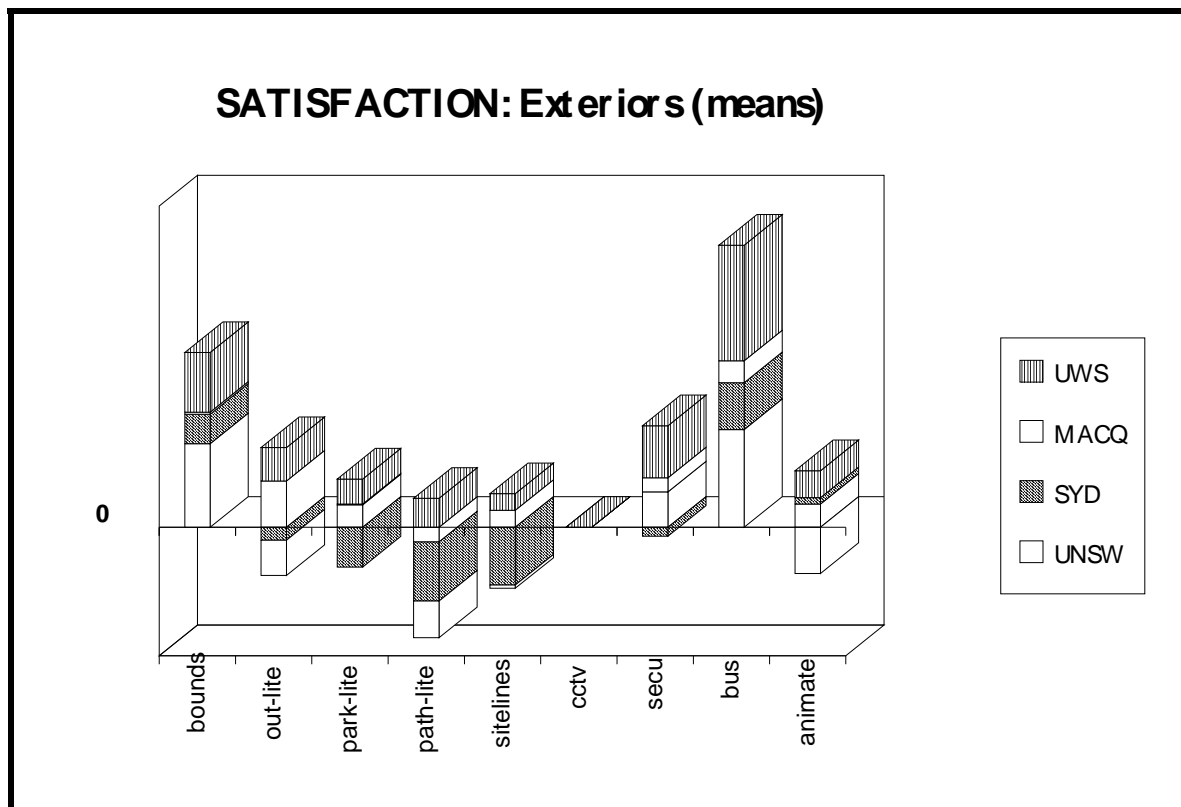
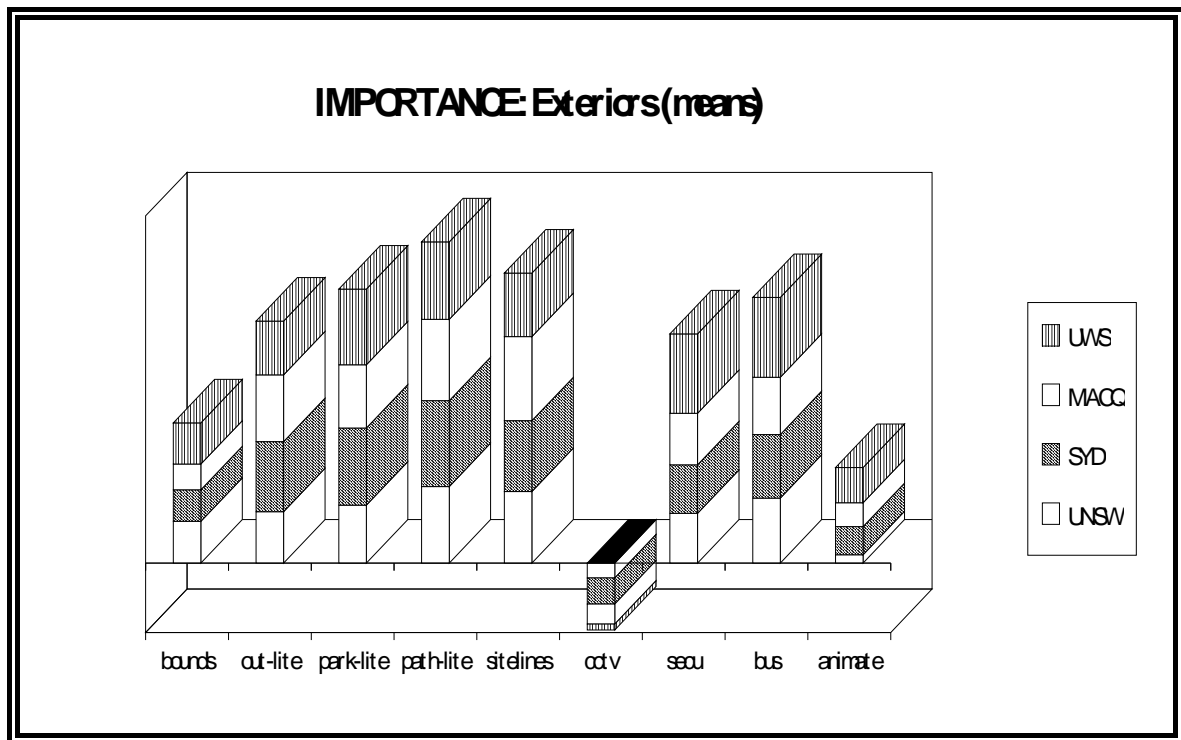
Of special interest is the apparent significance of the variable 'clear sightlines' which featured prominently in evaluations of the Sydney region university campuses evaluated by the author⁶, and which is an environmental design issue that should be seriously considered in the design of any setting. The value of being able to see ahead, and discern who might also be on a path before encountering them, as well as limiting the opportunity for individuals to conceal themselves or to surprise unwitting users, is a powerful, in-built, situational deterrent.

Evidence from a user survey undertaken during the 4 campus study (over) indicates the relationship between *importance* accorded to lighting and to sightlines, and campus-specific *satisfaction* experienced with these elements. The difference between them is termed environmental fit. Without elaborating numerically, it is evident from the graphic representation that importance is very high and satisfaction low, indicating a low fit. *Note* also attitudes regarding CCTV, and some dissatisfaction

⁵ During the day, many burglaries and break-ins occur (when home-owners and tenants are away at work), and parked cars are stolen. This is due to 'routine activity' situations, where lifestyle patterns generate low surveillability potential and hence enhance criminal opportunity potential.

⁶ Samuels, 1995b

expressed with night animation, albeit not traditionally a component expected on university campuses (see the low importance attributed).

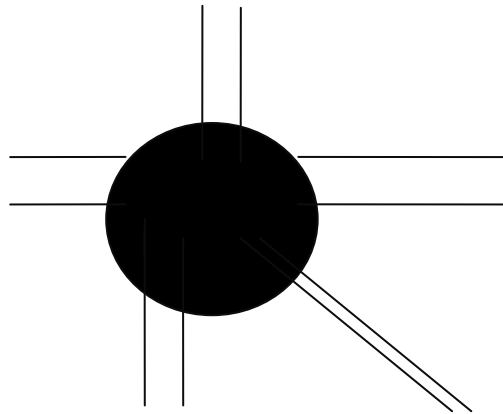


Figures 1&2: Importance and Satisfaction:
Elements Exterior to Buildings on University Campuses

Source: Samuels (1995): Defensible Design and Security - University Campuses

Ameliorating a path lighting/sightline component is more complex than merely adding more lights. Landscaping is bound to be involved - with concomitant ecological and aesthetic considerations complicating the design of streetscapes. Design resolutions could, furthermore, include the creation of 'sightline nodes', where movement paths interact and lines of sight change direction. Such nodal points should be convex in shape *ie* allow anyone standing at any point on the perimeter or entering the area from any path to see anyone else in the space, or entering it.

Figure 3: Intersection as Sightline Node



An appropriate sightline scenario for a setting might include:-

- the removal of columns/pillars
- raised buildings
- transit waiting areas with transparent sides and backs
- water fountains, fire equipment, vending machines etc located at the periphery of public areas
- see-through fencing
- vegetation and landscaping conforming to the '1:3 rule' *ie* elimination of all foliage between 1 and 3 metres above ground level, and
- courtyard, piazza design and overlook potential built-in to public urban places.

3.0 COMMUNITY PARTICIPATION

Community involvement sends a message to potential offenders that a place is 'owned' (involving rational choice/risk:reward trade-offs). This is also called community empowerment, or territorial appropriation, or manageable space (Perlgut, 1982).

The salience of territoriality is often overlooked by security managers and environmental designers. Albeit that risk-management, risk minimisation, securing and controlling accessibility, providing surveillability opportunities and adequate security personnel are fundamental to crime minimisation, the role of the *users of facilities* is not usually capitalised upon. Communities, however, are the central component of all security systems. Where they are involved, committed, and have a sense of attachment - half the battle is already won. But they need to be specifically included in decision-making processes, not excluded. They need to participate - to be asked their opinions, given the opportunity to suggest priorities and solutions, expected to help manage the system, invited to help maintain places and personalise them with their own historically and culturally meaningful symbols and decorations, to provide urban art works, devise and manage child-safe play zones, and generally indicate their sense of ownership and proprietary attitudes via 'territorial markers'. The community should also be asked to evaluate the effectiveness of security systems after their deployment. In these ways the expectations, experience and evaluations of the community are elicited and institutionalised, which, in combination with the experience and expertise of security managers and environmental designers, should notably enhance the probability of ending up with safe-places.

This community is, of course, a 'community of interest'. It is irrelevant whether they are public housing tenants or owner-occupiers in a residential setting, employees in commercial or industrial or government premises, civil servants in public buildings, students in colleges or universities or schools, passengers on public transport, etc. Once they are engaged in the debate they become stakeholders. They come to have a vested interest in the security of the place where they live, work, study, travel etc.

There are also some places to which individuals become more easily attached *ie* form 'territorial cognitions' (Taylor et al, 1985) and enact proprietary behaviours, because

of the quality of the locale, and a sense of pride in its aesthetic quality, image, facilities etc. Their sense of satisfaction with a situation engenders a corresponding desire to maintain that state of affairs, which manifests as a heightened sense of control. Moreover, as quality of the environment increases, fear of crime tends to decrease (people would tend to associate such places with a caring community, or municipality, or transport authority), whereas a disruption of territorial control processes engenders high fear levels (Taylor et al, 1981).

Decoration and personalisation have long been recognised as forms of place attachment, and as extensions to, or symbols of a sense of identity, or membership of a group, community or neighbourhood (Taylor et al, 1976, Altman 1975, Greenbaum and Greenbaum, 1981, Rapoport 1982, Cooper Marcus & Sarkissian, 1986).

Soft architecture implies such a process, where the community is invited to embellish a setting, a public place or building exterior or interior with territorial markers in the form of murals, urban art works, sculpture, landscaping etc (see below).

3.1 Stages in the Community Participation Process

3.1.1 Pre-Design Research phase

During the preliminary phase of any security-by-design project, community involvement is readily achieved by opening out the process. Risk managers and project managers, however, often expound the “need to know” dictum. In certain situations, where confidentiality is a precondition, this has its place, but where applied naively or indiscriminately, can result in the removal of the community of interest. Thereafter, official and costly remedies need to be put in place to fill the vacuum which, otherwise, a community naturally fills. Natural policing uses the natural tendencies built into the human psyche to territorialise and protect their own places. This is a pro-active approach which orthodox risk-management strategies need to take seriously into account, since the concentration of power in management hands alone is ultimately counter-productive. People designing and managing their own places as far as possible is a *phenomenologically valid* solution *ie* conforms to natural territorial tendencies.

3.1.2 Soft Architecture phase (& Soft Management)

Either at the initial planning stage or during the normal utilisation of a place, the community can be invited to personalise and 'mark' the territory. This is a soft architecture approach, in distinction to the hard architecture or fortress approach whereby the setting is target hardened - to resist acts of vandalism and restrict accessibility. Needless to say, all glazing - windows and lighting - and CCTV installations should ideally be hardened against vandalism (given their fragility and critical role in providing surveillability opportunities). Other than that, a fortress environment depersonalises a place, sends out fearful messages, and actually seems to invite youngsters to trash it - who are obviously not seen as part of the place, but as outsiders if not intruders.

Soft architecture quite deliberately invites the local community, whoever they may be, to take part in the environment, to express themselves there, to etch their identity into it. The buildings and open spaces between them can then reflect the personality of their users. A partnership between local councils, communities, community organisations, urban artists and security managers is established, and responsibility for place can now find expression. And where immigrant communities or minority neighbourhoods, or local youths, are allowed the opportunity to express their historical and ethnic roots and sub-cultural lifestyles in their local environment these are, in a sense, validated by society. Will a graffiti gang feel the same compulsion to tag everything in sight if they have a place where they can legitimately have their presence acknowledged and integrated, and their graffiti appreciated as 'street art' ? This is worthwhile testing.

Soft management is of a similar ilk. This is where representatives of the community undertake a management role in collaboration with security managers or housing managers, and where this interaction is institutionalised, in one sense, and made quiet ordinary, in another. Basically it refers to a situation where decisions about day-to-day security realities and other lifestyle expectations are made in mutual consultation.

Examples abound of the success of the soft architecture approach.

In a Los Angeles neighbourhoods 185 murals were painted reflecting the city's racial and national diversity - and gang members were involved (McNulty, 1990). Similarly, the AC Transit Company in Oakland, USA brought together gang leaders, service providers and businesses to address the issues of vandalism, harassment and drug activity on the transit system. A youth council of gang leaders was established, and private sector support was enlisted to develop programs to provide jobs for young adults. The result was that crime fell on the transit system and minority youth were given a stake in their community (Pennell et al, 1986).

The New York City Transit Authority's Creative Stations program initiated the idea of combining community art and station management. The ideas came from the community and the authority assisted with planning, selecting artists and overseeing projects, as well as providing some portion of the funding for each project.

Australian examples

Partners for Livable Places is a Washington DC based initiative which developed a program called Shaping Growth in American Communities. Knox, a community east of Melbourne, is a city which joined this partnership, and some years ago won the Australian Local Government Innovation Award for Environmental Improvement, being designated 'Australia's most livable city'. Knox captured the imagination and cooperation of its residents with its Knox Lifestyle Plan, designed to create a livable city and celebrate 'a sense of place'. The strategy was to improve the built environment and civic facilities with the active participation of the residents themselves. A festival site for community celebrations was established, and timber totem poles, ceramic planter pots and stained glass windows were created, bus shelters decorated, sound playgrounds for children constructed, etc. The council established a 'PlaceMaker team' consisting of three full-time artists who either create community art or commission and liaise with local craftspeople, architects and landscape architects.

The program has resulted in a significant reduction in graffiti and vandalism (McMurray, 1987, 1990).

A similar community art program was set up in Carlton Estate, Melbourne where an artist worked in consultation with local tenant organisations to paint buildings, and personalise flats with murals outside of front doors. Again, graffiti was greatly reduced (McIvor, 1990).

Walters (1992) reports on several recent and successful partnerships in Australian cities, where public space has been acculturated and appropriated. In Adelaide, the Pinda Street Mural Group was formed, which enlisted the help of artists, and professionals experienced in developing community projects, and the Community Arts Network, and liaised with the local council and the local community. The idea was to paint a mural on the wall of a large factory which dominated the area. The project quickly caught the imagination of the locals, who turned up to help and also brought with them photos and other memorabilia, images of which were included in the mural. The mural, some 200 meters long, has transformed the area physically and socially, brought neighbours together, and, although graffiti is widespread throughout the Kilkenny/West Croydon area, the mural has remained untouched.

Another example is of a cultural mapping exercise, initiated by Community Arts Marrickville, in Sydney, where multiple local ethnic groups worked with artists and translators to produce artifacts based on their personal experiences of the shire. This not only brought together the different groups, but showed them each other's visions of the area; and culminated in an exhibition of the cultural maps. This rich bank of imagery will also form the basis of many artworks to be installed within the fabric of the physical environment, in new footpaths and walls.

Yet other projects are the Kalamunda Stained Glass project in Perth, where residents and local artists created a wall of stained glass for the local library; and in Melbourne, where the Springvale council has embarked on a 15-year project, recreating bushland. Integrated in this project is a cultural plan including designs for public open spaces, railway stations, malls, streets, paths, street furniture, sculptures and fountains.

The final example is of a mural on the corner of Everleigh and Caroline Streets, Redfern, Sydney, now in its third year of display. Mick Mundine, Secretary of the Aboriginal Housing Company said: "The mural was painted to change the image of the place, to bring a bit of love and unity to the place". The design itself was determined from the community through questionnaires, and two aboriginal artists from Skillshare painted the mural.

3.1.3 Post Occupancy Evaluation phase

A POE of security in facilities, buildings and urban places can take three basic forms. First, an analysis of user experience and satisfaction, where fear maps, victimisation maps and safety maps might be drawn (Samuels, 1995a, 1995b), users interviewed about their experiences during the day and night in a given area or building, and expenditure on security devices and security patrol services noted. The second major way of running a security-POE is called a safety audit. Here the community is invited, through a group of representatives, and also including the police, to walk through a neighbourhood, or building complex with checklists, and record their impressions of the degree of safety/security there (the Liverpool Station and Kings Cross audits are recent examples). The third approach is called local area crime mapping (see Devery, 1992; also Samuels, 1995a). Here offence records (frequency and location by CD area) and demographic data are synthesised and offence rates (per 1,000 or 100,000) mapped using the MapInfo programme. It is then possible to highlight hot spots spatially *eg* assaults occurring in the vicinity of licensed premises (see also Homel & Tomsen, 1992).

In the first two methods cited above the reasoning is similar. By including the community in evaluating a place they come to have a sense of appropriation, of ownership. They then have a tendency to lobby councils for lighting improvements, hound publicans to be more responsible in their alcohol serving practices, contact the media to disseminate their concerns and also hound them to report incidents responsibly. While this might prove daunting for local administrators (*eg*, Liverpool council felt unfairly singled out, an unfortunate by-product of conducting a place-

specific audit), if a problem is perceived to exist a rational approach would be to address it, not ignore it. If the community is prepared to take on this natural policing role, all the better for the administrators in the long run.

4.0 AFTERDARK DESIGN and COMMUNITY INVOLVEMENT: Night Animation and Mixed-Use Zones.

The anticipated consequence of the inclusion of local government, residential, commercial, recreational, educational and transportation facilities in a 'mixed' urban domain or metropolitan fabric is the 'populating' of these areas, resulting in a heightened 'animation' during the daytime hours and, particularly, at night. In principle, 'eyes on the street' enhance natural surveillance opportunities and reduce fear - due to the presence of potential witnesses and, hopefully, people who feel strongly enough to actually intervene (or at least make the effort to alert the police).⁷ Jacobs (1961) observed that successful city neighbourhoods were close-textured, high-density assemblages of mixed land-uses, where many people lived within walking distance of many destinations and there was a constant coming and going on foot along a dense network of streets.⁸

Where land-uses do not have continuous occupancy there is a gap in the socio-spatial fabric, and because surveillance is lower at these 'territorial interstices' they are likely to be assessed by marginal individuals as good places for crime (Taylor, 1988).

The presence of potential witnesses on neighbourhood streets appears to deter crimes such as robbery. Commercial stores set back from the street, shielded from public view, and sparsely used streets adjacent to commercial districts have been found to be particularly crime ridden (Conklin, 1972; Fenney and Weir, 1974).

⁷ see Latane & Darley, 1969 on 'bystander apathy', Hackler et al, 1973 on 'willingness to intervene', Huston et al, 1981 on 'bystander intervention', Friedman et al, 1982 on 'victims and helpers'.

⁸ Such a consolidation of urban facilities also has an important ecological or environmental sustainability component, since it reduces vehicular movement requirements, and hence improves air quality and reduces greenhouse gas emissions.

There are also arguments against mixed zoning. Where there are more people there are also potentially more strangers, and more potential offenders. Residents near small commercial centres have expressed feelings of less control and thus more fear (McPherson et al, 1983); and access from non-residential land-uses to housing may increase the burglarisation rate (Winchester and Jackson, 1982). This suggests that for the advantages of mixed zoning to become manifest, careful design is required. Most importantly, the different uses need to be *appropriate and integrated*, not merely juxtapositioned, with their functions and time-space profiles considered as a whole.

4.1 The Railway Station as a Natural Neighbourhood Centre

In terms of the railway station context, only facilities with compatible functions should be juxtaposed, *eg* a TAB, electronic games centre, pub or bottle shop would be anathema to the intention of enhancing security at stations, and should be excluded. Legitimate activities centred around and on a station could include:-

- a gym, hotel, business centre, conference centre, TAFE centre, small cinema and theatre, outdoor amphitheatre (for street theatre, classical music quartets, children's puppet shows, dog shows, fashion shows etc), sound gardens, pavement cafes, 7-11 shop, shopping mall and arcade with late-night shopping, computer centre, newsagent, bookshop, travel agent, Country Link office, Ticketec, information centre, medical centre, late night chemist, Transit Police office, 24hr CCTV center, SRA facilities, Chamber of Commerce, council and local government agencies, and Community Art Centre.

Where a station is perceived of as a place where essential and safe functions/facilities are located *ie* as a neighbourhood centre or civic centre with activities that attract legitimate users during the entire period that a station is open, it is likely to be used regularly, night and day. This animation could be a major deterrent to illegitimate users who might otherwise perceive the station as dormant and indefensible because it's users are transitory and thus without proprietary attitudes. Where many potential witnesses are present, whether or not they actually intervene, the ambience,

environmental cue and risk:reward ratio of the place is likely to be altered in the mind of the potential offender.

4.2. University Campus Central Domain

An on-campus, night animation/mixed-use domain could be centered around a facility such as an all-night computer centre, with appropriate electronic surveillance equipment, and regular policing by security services. The domain could be based on a cluster design - which affords the best overlook onto semi-public places, and be further animated via the location in this area of the central library, on-campus residential 'neighbourhoods', sports facilities, student union/guild domains, staff clubs, student canteens, a conference centre, and more urban-type night-life activities such as a theatre, movie house, pavement cafes, and all-night convenience stores. Servicing of this domain by security shuttle buses and bike escorts, and proximity to well-lit public transport nodes, taxi ranks, and parking areas (all electronically monitored, if needs be) are indispensable aspects to ensure security.

Bars and pubs and clubs should not be included in this mix. Furthermore, rigorous identity checks at campus entry-gatehouses at night is a further necessity.

The successful relationship of such a mixed-zone to the educational and research functions of universities will be reliant, ultimately, on the quality of the pedestrian path network, in particular lighting and sightlines. It is, of course, axiomatic that in the case of both campus and station, the community of interest should participate in the design, embellishment and management of the domains.

5.0 CONCLUSION: Risk Perception

It is well recognised in the literature on risk perception that a statistically minimal risk, if perceived as potentially threatening, may generate anxieties that are no less real than if the situation were actually threatening (Lee, 1981). If this influences behaviour, the ambience of a situation can be radically changed for the worse. On the other hand, 'active involvement results in the risk being perceived as lower than if participation were passive' (Fried, 1970). The public is also said to be willing to

accept risks that are voluntary at a much greater rate than those that are involuntary (Otway et al, 1978). Where individuals or communities become involved in the decision-making or control process, they are less likely to attribute blame (Lee, 1981), and are more likely to take responsibility for their own security. Consultation with the community regarding risk minimisation would seem to be a crucial component of any risk management strategy.

Furthermore, there is also recognition of the wide divergence in risk assessments made by experts and the subjective risk perceptions of lay users. This is the difference between expertise and experience. 'The public's evaluation (or perception) of risk is markedly different from objective assessments made of the same risks by scientists' (Lee, 1981). Experiences that form part of the habitual insights and internal representations of lay people and local users are usually not available to experts. Assuming this knowledge is itself risky.

Where security managers become preoccupied with the technical means of reducing risk and neglect to include psychological means of rendering it realistically acceptable, and/or naturally manageable, they are unwittingly denying the natural advantage built into all individuals, and communities of individuals, to take responsibility for, protect and, if needs be, defend their property and person. On the other hand, where such an approach is combined with an in-built design potential which favours surveillability opportunities, control of accessibility and a sense of community appropriation, *and* afterdark design and animation facilities encourage people to participate in activities in public places at night as well as during the day, an opportunity structure is set up which should naturally enhance both crime prevention and quality of life.

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