

Samuels, R. (1995), Crime Prevention Through Environmental Design: Theory and Practice

Module for CPTED Research Report , State Rail Authority, NSW

PREAMBLE

This document provides the 'generic' or conceptual basis for the CityRail CPTED Security Audit undertaken by Australian Construction Services for the SRA Protective Services Group. It must be read in conjunction with the specific Line and Station reports.

A conceptual model based on the interaction spatial and situational criteria forms the basis for three critical elements of this research. One version of the station-specific *spatial-situational interactivity matrix* can be found in the CPTED Checklist devised for the station security audit observation phase (Part B). The interactivity model is also utilised, in a developed form, as a CPTED analytic tool in the station evaluation phase; and together with empirical insights gained from the station audit experience, the model provides the framework for the expression of the fundamental principles on which the 'best practice' station guidelines are based (see: Section 2), in both this and the Line documents.

1.0 ESSENTIAL CONCEPTS, PRINCIPLES AND PRACTICES

1.1 Introduction

Environmental Criminology is a development within preventative criminology that understands criminal events as the *co-incidence* of offenders, victims and targets, guardians and communities within a spatial-temporal context. In other words, criminal incidents are not irrational acts but are risk:reward calculations based on offender perceptions of opportunities and potentials. Crime is not uniform, and preventative approaches have to address the diversity of criminal behaviour, and understand the specific places where they occur, the

specific times at which they occur, who might be committing the offences, and what socio-spatial elements are contributing (Brantingham & Brantingham, 1990). Malicious vandalism, for instance, is not meaningless or irrational (Wilson, 1990). There are, of course, impulsive and gratuitous acts of violence and destruction that emanate from disruptive individuals and groups, but environmental design can have little impact on this aberration.

Within this general model of environmental criminology are two contemporary paradigms that help explain and locate criminal events - Rational Choice theory (Clarke and Cornish, 1985) and Routine Activity theory (Cohen and Felson, 1979).

Rational Choice theory sees criminal events as premeditated calculations made within the opportunity structure of specific settings *ie* as non-random, goal-oriented, planned behaviours. For instance, interpretations of environmental cues ¹ in a station setting will suggest some places and situations as affording good opportunities for criminal behaviour - dark subways, deserted platforms, soft targets (isolated passengers, eg), minimal presence of guardians, good escape routes. On the other hand, where the image of a station is of a place that might be defended, and where illegitimate behaviour will stand out as obviously inappropriate, the likelihood that potential offenders will treat it as a soft target should be decreased.

Routine Activity theory sees criminal events as the confluence of suitable targets/victims and motivated offenders in an appropriate time-space setting as a consequence of lifestyles or patterns of behaviour. Paths of movement of both potential victims and offenders will tend to influence occurrences - using a station or train late on a Saturday night, for instance, increases the likelihood of being victimised (NSW Bureau of Crime Statistics: see Jochelson, 1994). Similarly, unattended cars parked in often ill-lit station carparks can represent a routine behavioural pattern that is 'criminogenic' *ie* can be capitalised upon by motivated offenders. Passengers will often return to their cars alone, often afterdark, and parked cars also provide perfect hiding places or opportunities for concealment. Weiser-Easteal and

¹ Environmental cues are non-verbal messages (Rapoport, 1982) about which behaviours might be appropriate or tolerated in a setting. Physical and symbolic features *cue* people into a setting.

Wilson (1991) comment that a number of kidnap/murders have commenced in railway station car parks, which emphasises that prevention strategies must also include nearby areas where commuters park their cars or use city streets, paths and parks to gain access to stations.

The co-incidence of routine activity and rational choices is evident in the temporal-spatial patterns formed by particular crimes and offences on the rail system. Most graffiti occurs in the off-peak hours and afterhours; reported robbery and assaults during the peak period and late at night [18-24h period] (Jochleson, 1994) - although the records do not indicate the precise locations where the incidents occur. Another study suggests that sexual assaults and harassment are more prevalent on trains than at stations (Aungles et al, 1994). Understanding these symptomatic indicators in situational prevention terms requires specific resolutions for specific incidents. Police patrols, for instance, will probably impact little on graffiti (while management policy and community appropriation might) but could influence the prevalence of harassment incidents.

Situational crime prevention, thus, is an approach which relies on reducing opportunities for crime, by both manipulating the physical environment *and* influencing the community environment. The goal is to increase the effort required and the risks (real and perceived), and to reduce rewards; *and* to enhance a community's sense of responsibility for places and facilities they use regularly - albeit a public and not a private domain (in this case).

1.2 Crime Prevention Through Environmental Design, or Security by Design

CPTED can be considered to be the application of such principles in the built environment, the three fundamental CPTED facets being surveillability, accessibility and territoriality. In general terms, the aim is to reduce opportunities for crime (and harassment) through design, management, and community appropriation of settings. Architectural and urban design 'set the scene' *ie* provide the setting within which are embedded the spatial or environmental cues and the *built-in opportunity potentials* - which both legitimate and illegitimate users interpret. But design does not cause behaviour.²

² The theory and practice of CPTED and situational crime prevention is multi-disciplinary and still evolving:- (Cloward & Ohlin, 1960; Jacobs, 1961; Angel, 1968; Newman, 1972, 1976a, 1976b; Mayhew et al, 1976;

Natural surveillability is the ability to see and be seen - and thus implicates orientation of buildings, windows and entrances, path and street design, lighting and sightlines (ability to see ahead) and night-animation.³ The possibility of being observed while committing a crime increases the associated risks, and should reduce incentives accordingly. Surveillability potential also includes policing, staffing, and use of electronic systems such as CCTV.

Natural Accessibility is the control of access and egress, and includes issues such as the design and management of entrances, exits and circulation routes as both a deterrent and as flow control. Accessibility control both increases the effort required to commit a crime and facilitates the accessibility to services and facilities for legitimate users. The enclosure or exposure of a station, during normal operating hours and afterhours, is a critical factor here. The use of security hardware and vandal-proofing devices for target hardening complement natural accessibility controls.

Territoriality includes staff, passenger, community and neighbourhood participation and partnership to enhance the appropriation of places, labelling, decoration, beautification, and gentrification of places (soft architecture) to suggest ownership and enhance proprietary attitudes, the use of symbolic boundaries to mark the transition between private and public space, etc. In sum, territoriality is an expression of a *sense of responsibility* for place. The illegitimate 'colonisation'⁴ of public places such as stations is also a form of territoriality, as is graffiti; while the notions of soft architecture and soft management relate to the enhancement of the quality and image of a place by inviting the local community, regular users *and* otherwise illegitimate colonisers to participate in its design, decoration, beautification and maintenance. The theory here is that if people feel they are 'stakeholders'

Baldwin and Bottoms, 1976; Herbert and Johnston, 1976; Jeffery, 1977; Carter and Hill, 1979; Taylor et al, 1976, 1979, 1980, 1984, 1986; Brantingham and Brantingham, 1981; 1990, 1991a; Geason & Wilson, 1989; Clarke, 1983, 1992; Gottfredson and Hirshi, 1990; Poyner et al, 1985, 1991; Stollard, 1991; Crowe, 1991; Samuels, 1995, & forthcoming; *inter alia*).

³ A form of natural surveillability based on an 'occupancy factor' in the station context *ie* on the presence of other legitimate users, thus overcoming the isolation generated afterdark or at off-peak periods (see Samuels, [forthcoming] for a discussion of a 'mixed-use/night animation zone' for university campuses)

⁴ territorial invasion by youths afterhours, or by gangs at any time

ie have a vested interest in a place (for whatever reason) they are more likely to act to protect and care for it.

Territoriality is crucial to the successful application of CPTED principles, but all stakeholders must be involved. It is not inconceivable that an 'ethnic art' approach - which recognises the multi-cultural nature of modern Australian society, and encourages the embellishment of neighbourhoods with depictions of both local history and immigrant recounts of their native lands - could have an impact on ethnic gang intimidation and graffiti 'crew' vandalism at stations. 185 murals, for instance, were painted in a Los Angeles neighbourhoods 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 Oakland 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).

Examples of the successful application of the soft architecture/community partnership approach to crime prevention include the Washington DC based Livable Places program which has been in place for several years in the USA. In Australia, Knox City Council (Victoria) has introduced a community art and architecture program which encourages residents to work with artists to embellish public buildings and other community assets (discussed later).

Humans have a basic psychological need to identify with a place. It is difficult in the extreme to identify with a place that has been vandalised, where the message conveyed is: youths roam here, and colonise this place. Whether the feelings engendered in legitimate users by witnessing this evidence of 'malaise' are revulsion, or anger, or intimidation - a 'sense of place' is forgone. The implication for the rail system is that potential commuters use other forms of transport.

The notion of Defensible Space (Newman, 1972) is embedded within CPTED, as is the issue of urban design for natural surveillance (Jacobs, 1961), both of which are critical elements in station security. Where stations are perceived of as 'islands' of 'public' space, separate from their neighbourhood, they are vulnerable to mis-use and abuse. Where they are perceived of as an integral part of a neighbourhood and an asset 'owned' by the local community, behaviour that is appropriate to their intended function is more likely.

1.3 People-Place Model

Architectural and Urban Form *do not cause behaviour* (in a deterministic sense), but can increase or decrease the likelihood of behaviours occurring. It is not enough to examine design features alone. We must understand how people perceive or interpret the meanings embodied in places.

The theoretical paradigm underlying this research derives from an understanding that physical determinism is an inadequate explanation for spatial behaviour. The alternative model proposed here recognises that spatial cues and design can *limit or encourage* the acting out of certain behaviours perceived as being appropriate in certain places *ie* that an opportunity potential (situational inducement) can be created by design. However, whether or not an individual decides to act on these perceived potentials will depend on their personal proclivities and history.

If their socio-cultural environment, past experiences and/or personality development have created a certain vulnerability or tendency to act in anti-social, delinquent or criminal ways, and the appropriate situational opportunity exists, the likelihood of a crime being committed is increased.

Alternatively, where situational settings have a strong community or territorial base, and the opportunities built-into the environment enhance surveillability potentials and control over accessibility, the likelihood of dedicated users acting to preserve and protect a place is increased - even where their use of a place is transitory, such as at a station.

This paradigm is termed an *interactional model of situational contingencies* (see: Samuels, 1995, & forthcoming).

1.4 Displacement

Crime has a tendency to be displaced. In other words, rationalised situational opportunities and in-built defensibility potentials often have the effect of displacing crime from one place to another. Displacement of crime can take place in time, or space, or to a different crime, but not all criminals will continue to hunt for targets. Contemporary environmental criminologists believe that different levels of opportunities are likely to trigger persons with different levels of criminal motivation, with weaker opportunities only triggering action by those with the most powerful compulsion to crime (Brantingham & Brantingham, 1991/b; Gottfredson & Hirschi, 1990).

In general, CPTED has been found to have an impact on burglary/theft, street offences, nuisance behaviour and vandalism; *and* there might well be some beneficial *diffusion* too (Clarke, 1992) - a halo effect. Possibly this is more related to psychology than goodwill (uncertainty about whether CCTV surveillance capacity is in use or not, eg).

It seems self-evident that if preventative/defensible and benign/proactive environmental design and management were implemented *on a wide enough scale*, the issue of displacement could become neutralised. If one station becomes more defensible, the delinquent element will have a tendency to turn up at an adjacent station. The New York City experience of cleaning up its trains and stations displaced the graffiti to other, unassigned public places (Goodlatte, 1990a). It is probable that only a regional approach will diminish displacement in the long term *ie* where co-operation and co-ordination between a wide range of agencies becomes the standard, and where information is freely passed from agency to agency. A similar CPTED policy would have to be implemented by all the transit authorities, by planning/housing authorities, local government agencies and a wide range of NGOs (non-government organisations) all of whom would have to participate in a concerted regional approach to crime prevention, fear reduction and quality of life enhancement.

1.5 Offender Perceptions

The possibility of understanding territorial judgments in a station-offender's mind would be of great importance to environmental criminologists, station designers, security administrators and transit police. How, for instance, do potential offenders 'weight' various defensible space features of stations? What is the combination of factors that denotes a 'susceptible or immune' station? Do they read but override territorial demarcations?

Ascertaining the viewpoint of individual offenders is vital to understanding the spatial patterning of crime. It is their motivations, decision-making trade-offs, evaluations of risks and rewards, familiarity with areas *ie* their individual socio-spatial perceptions which are meaningful, not socio-ecological statistics, or general epidemiological crime rates (frequencies of recorded crime occurrence by spatial distribution).

Merry (1981a & b), for instance, in a housing estate study, reported that residents found narrow dark walkways, low underpasses, and convoluted entrances to buildings to be dangerous *and* convicted robbers she interviewed also considered these places to be ideal for crimes.⁵ People tended to avoid these areas, and hence the actual rates recorded there were not as elevated as might have been expected, given the situational vulnerability of the places. A simplistic reliance on recorded or reported rates can be misleading.

Offender perceptions can indicate, for instance, where disorder and threat are high in given context, and in such areas a *redundancy* of territorial cues (Rapoport, 1982) might be required for territorial functioning to be effective - for example, both fencing and planting to keep intruders out (Brower et al, 1983). Carter & Hill (1977) were able to explain 75% of the variation in crime rates after interviews with convicted offenders, with regard to their evaluations of areas where they committed the crime. Important issues they reported were the offender's familiarity with an area and the perceived 'hardness' of the 'mark' (target).

⁵ see also: Phelan, 1977; Bennett & Wright, 1984

It is, however, self-evident that attention to criminogenic details of places at a micro-level (as discussed above) *without* recognition of the whole picture of areas which forms in people's minds (in a 'Gestalt' sense, the whole being more than the sum of the parts) will limit the effectiveness of any design changes on crime and fear of crime (Carter & Hill, 1977).

Until *unrecorded* incidents, of both crimes *and* harassments, on the rail system are taken into account (see, for example, Aungles, *et al*, 1994), community territorial experiences taken into consideration, *and* the attitudes of offenders canvassed, whatever solutions are devised to enhance security and reduce fear will remain as partial solutions, even where expert security audits have been undertaken.

1.6 Perception of Incivilities or Malaise Indicators

Neighbourhood and station incivilities can take the form of vandalism, graffiti, litter, excrement, discarded syringes, broken or missing lights, broken glass, vandalised and graffitied bus shelters and toilets, etc. These signs of malaise serve as indicators, or as negative environmental cues, of disorder and lack of community responsibility. Coleman (1985) correlated a higher incidence of litter, graffiti and vandalism in public housing estates with areas with 'defective' design features. Hope and Hough (1988) tested the relationship between incivilities and the experience of crime and found perceived incivilities to be strongly linked to worries about crime, dissatisfaction with neighbourhood, *and* also with rates of victimisation. The latter appeared to be logarithmic *ie* the rise in crime experiences increased exponentially with perceived incivility. Similarly, Herbert *et al* (1989) confirmed this relationship between perceived level of incivilities, satisfaction and experience of crime in eight local authority areas in Swansea. ⁶

These findings would suggest that improving the quality of a neighbourhood and of the station environment (increasing satisfaction and decreasing fear) could have a halo effect *ie* decrease crime rates.

1.6.1 Toilets on Stations

⁶ see: Skogan, 1987.

The issue of whether to provide toilets on stations or not, or if provided in what fashion is contentious and possibly unanswerable. Legitimate passengers have a right to expect to have access to toilets. It is a standard amenity in all public facilities. They should not be disadvantaged due to the illegitimate activity of a minority of individuals who use the toilets for injecting drugs, sexual encounters, or as places to add tags and graffiti, vandalise and at worst, assault legitimate users, or staff. Station managers have responded in various ways. Some simply close the toilets, or close them late at night. Multiple reports of people urinating on the door, or next to the toilet are tabled in the CPTED analysis. Defecation on station platforms is also something which station staff sometimes have to deal with in the morning on opening stations. This issue should be able to be contained by the secure enclosure of stations afterhours, an issue discussed elsewhere. Some insist that a key be collected from them, which does not guarantee its return (unless some deposit/surety is paid/made) nor the legitimacy of the behaviour of the individual once there. Electronic opening/closing - controlled by station staff - seems a better solution, and the coverage of the entry with conspicuous CCTV could act as a deterrent to who uses the facility once the staff have allowed access to it. Alternatively, the siting of the toilet within the sightline of the staff and/or the booking office window could help maintain some control over its use.

The issue of drug use in the toilets cannot be avoided if an individual is intent on this activity. At best a safe sharps container/disposer should be provided, on the basis that at very least legitimate users should be protected, as much as is possible, from unwitting contact with needles/syringes. At Bondi Beach there is a container attached to the wall which allows for people to dispose of needles, should they have the slightest social conscience. It is possible that if an individual addicted to hard drugs is given a modicum of social acceptance by the obvious provision of a needles disposer, they just might react positively and take the trouble to safely dispose of their needles after use.

The illegitimate disposal of needles on stations is an endemic problem reported by virtually all station managers interviewed by the CPTED auditors. It would seem that outlawing and preventing the use of drugs on stations will be impossible to achieve while stations are perceived of as unassigned, public space. If addicts were to perceive of stations as civic

centres which were appropriated by local communities it is just possible that they would seek other, unassigned places in which to inject themselves. From the point of view of the SRA and the users of the rail service, such a displacement would be beneficial. It would of course simply transfer the problem to other public places, but at least off the stations.

A further possible solution to the general problem of toilets on stations might be found in the adoption of what are called Automatic Public Conveniences or (APC's). These are self-contained cubicles which were inspired by aircraft toilets, and were originally developed in France where they are widely used. They are now also used in the UK, the first installation was in 1982. The borough of Kensington and Chelsea developed a version with students from the Chelsea College of Art and a British manufacturer Bradco (known as the Kensington Autoloo).⁷ They are pay-toilets, unisex, can be adapted to allow for wheelchair access (called Disabled Public Conveniences or DPC's), and are completely washed and disinfected between users. The standard method for cleaning APC's is that the lavatory bowl and floor tip up and are cleaned by a high speed rotating brush, pressurised water and disinfectant. It is then dried with hot air and deodorised. The toilet door locks automatically during the cleaning cycle; and also unlocks automatically if a user has been in it for more than 17 minutes. Taped music and voice instructions are available on push button command.

At least one APC/DPC would be required per platform.

There are several advantages to the use of such APC's and some disadvantages:-

Advantages include:- quick and easy installation, can be rented (in the UK at least) @ £9,500 a year including maintenance and repairs (1990 prices), are open 24hrs a day, have an automatic fault reporting and alarm system, are heated and mechanically ventilated, and washing facilities are sensor operated. Furthermore the risk of assault is entirely removed (well advertised CCTV should cover the entry point, or siting should place them in view of staff). Ultimately, adoption of such a system by the SRA could lead to the development and

⁷ Other British manufacturers: Healthmatic Ltd, Hawksworth, Swindon, Wiltshire, SN2 1D7; and Street Equipment Ltd, Unit 4 Goldhawk Industrial estate, 2a Brackenbury Rd, London W6 OBA.

manufacture of their own system - and to the sale of systems to other public authorities, and to their deployment at major sporting arenas (including the Olympic site).

Problems associated with their use (in Britain) are:- women mistrust them - the main worries are that the automatic cleaning process might start while they are using it, or that the doors will suddenly fly open, or that children will get stuck inside; the lengthy cycle *ie* only one person at a time can use it, so unless there are at least two they become unsuitable for use in busy areas, and the cleaning cycle takes 4 minutes; they are too small for a mother with a child to also take a pushchair inside; some people have complained that other users leave rubbish there, and that, being unattended, they are likely to be vandalised; and there are no coat hooks or shelves.

It is also likely that people who urinate *on* toilets that are closed will continue to do so since they will be unwilling to pay for entry. Here the visibility of the toilet would be crucial, and availability of staff to survey its use - either physically or electronically - is an interrelated issue in this very complex problem of toilet provision on stations.

And given the state of the current drug climate, a sharps container would also have to be provided and automatically emptied. It is possible that addicts would be deterred from using these toilets in any event, because of having to pay for entry.

Many of the above disadvantages could be ironed out, and indeed possibly have already been resolved, since the information presented above has been gleaned from a book published in 1990 (Cavanagh and Ware, 1990).

1.7 Fear of Crime and Geography of Fear

Fear (perceived risk) influences behaviour (limits options). People develop strategies to avoid places, to avoid them at particular times, and to avoid using modes of transport (or at particular times) which are perceived of as threatening. Where people fear to use a station or the rail system this results in less people using it overall, which further enhances both the

fearfulness of those who do use it (feelings of isolation) and the opportunities for crimes to be perpetrated (actual isolation, due to low use and thus low surveillability potential).

The image of station crime and malaise which is disseminated by the media is not necessarily a true reflection of the actual occurrence of crime on stations or the rail system. The Director of the NSW Bureau of Crime Statistics makes this point in the preface to their publication on Crime on the Rail System (Jochelson, 1994). However, the Bureau only collates reported and recorded crimes.⁸ Moreover, *harassment* incidents are not recorded. Inferences from the Illawarra study of commuter experiences (Aungles et al, 1994) suggest a rate some 400 times greater than that recorded at the Bureau. In other words, the reality for commuters does not seem to be accurately depicted by official reports. Over and above the dilemma that poor media coverage sometimes reports crimes as if they occurred at a station when in fact they took place near a station (Weiser-Easteal and Wilson, 1991), it is possible that the media might not, in fact, be sensationalising the issue when user experience is added into the equation.

In any event, despite the issues of sensationalism and under-reporting, a feeling of insecurity about a place or facility has real consequences *ie* people behave differently towards that place (Skogan, 1986; Calogirou, 1990; Dulong, 1990; Paperman, 1990). Indeed, a hypothetically *undefensible* place which has low rates of recorded crime is not necessarily a safe-place at all. If people fear a place they tend to avoid it. Thus, the majority of people, women especially, try to *avoid* dangerous places, and are reluctant to use the rail system at night, which proportionately reduces the likelihood that an attack will occur. The ratio of the number of users to the frequency of assaults may actually be higher in these areas perceived as insecure, and thus the perception of danger may indeed be accurate.

Research by Parolin (1986), which focused on the perceptions of people who lived in the vicinity of selected rail corridors on the Sydney train system, revealed that one quarter of all respondents avoided train travel because of fear of crime/violence. 16.6% or over one in six of the respondents had been victimised (assaulted, robbed etc) on a train at some time, and over 57% had witnessed undesirable behaviour or violence on a train.

⁸ Spring (1991) makes a similar claim for the Victorian rail system, again only referring to recorded crimes

The issue of the interpretation of crime statistics is crucial to our understanding of what really happens, and where and when it occurs, and hence to the solutions or resolutions applied to diminish the problems of fear and victimisation.

Below is a summary of the CityRail Customer Perception Survey, June 1994. The emphasis in the data extracted in Table 1 is not the same as that given in the text of the original report, which tended to concentrate on ameliorations in sense of insecurity, and on attributes of good ratings. An alternative interpretation is presented after Table 1 (over).

Table 1	LINES: STATION PERCEPTIONS and OPINIONS														Overall Evaluation					
	at Stations				Around Stations				Walk to Station				at Stations				at Stations			
	Secure		Insecure		Secure		Insecure		Secure		Insecure		Safe		Unsafe		Sec/Safe		Insec/UnSaf	
	N	D	N	D	N	D	N	D	N	D	N	D	N	D	N	D	N	D	N	D
North	30	91	37	3	28	85	40	6	35	81	36	3	31	65	30	7	31	78	34	5
West	22	88	33	0	19	73	40	8	22	85	44	7	32	61	23	9	27	75	28	5
South	21	85	47	5	21	68	57	13	17	80	50	7	35	59	37	14	28	72	42	10
Bankstwn	12	88	64	4	8	72	54	3	8	67	51	14	20	64	49	13	16	76	57	9
Illawarra	21	78	46	4	17	65	53	10	18	80	50	7	22	66	48	11	22	72	47	8
Newcastle	22	89	35	2	22	83	44	4	28	73	37	2	24	68	35	11	23	79	35	7
Intercity	27	89	42	4	21	73	46	7	26	76	43	12	30	63	34	10	29	76	38	7
Total Mean	22	87	43	3	19	74	48	7	22	77	44	7	28	64	37	11	25	75	40	7

Male	32	91	34	3	30	80	37	5	36	83	29	5	19	49	53	14	25	70	48	9
Female	12	84	53	4	8	70	60	9	9	71	59	11	15	59	61	14	14	72	57	9

* Neither/Nor scores are excluded. Secure/Safe & Insecure/Unsafe = composite of 'very' and 'quite'

** All figures are rounded up

*** All figures are derived from The CityRail Customer Perception Survey, March 1994

COMPOSITE CHART					
At Night					
Secure/Safe			Insecure/Unsafe		
	at Station	Approach		at Station	Approach
Male	25%	33%		48%	33%
Female	14%	9%		57%	60%

During the Day : Male & Female

70% feel secure/safe
9% feel insecure/unsafe

Overall Pattern: Security/Safety at Stations
25% of all users feel Secure/Safe at night
75% of all users feel Secure/Safe during the day

Importance ratings:
Station Safety After Dark = 95%
Station Safety During Day = 84%
Station Cleanliness = 86%

The CityRail survey employed two different questions to approach the same issue of fear at stations. In one question, people were asked about their feelings of Security or Insecurity, and in another their opinions about Station Safety. The summary presented as Table 1 converts both of these questions into one Overall Evaluation, termed Secure/Safe at Stations, during the day and at night. Individual Lines can be distinguished by their varying patterns (Bankstown performing worst overall, for example). For purposes of general interpretation, a Composite Chart is also presented. Here it can be seen that only 14% of the women respondents felt Safe/Secure on stations *at night* (even less, only 9% felt Secure/Safe approaching stations).

These figures represent the sense of insecurity of the most vulnerable group of users, at the most vulnerable time, and thus must represent the benchmark target to strive to ameliorate. When the most vulnerable group feels safe, everyone will feel safe.⁹

1.8 Reporting Rates and Under-Reporting

Different crimes have different reporting rates. Vehicle thefts, for example, are reported about 86% of the time (a requirement for lodging an insurance claim), while reporting rates of only 5-7 % are common for rape in many developed countries (Warshaw, 1988; Stanko, 1990; Samuels, forthcoming).

Australian Institute of Criminology research in 1987 indicated that for every 1,000 crimes committed, only 400 are reported to the police, 320 are officially recorded as offences, and 43 people are convicted *ie* about 4% (SMH, Jan 21, 1992).

80% of those travellers acknowledging an experience of victimisation in the Illawarra commuter survey (Aungles et al, 1994) did not report the incident. Although the study had a small sample, and therefore is not necessarily representative, its findings are suggestive and salient. A rate of *200 incidents of victimisation per 100,000 rail journeys* was recorded, relating to both crimes and harassments *ie* some 400 times greater than the crime rates published in the Bureau report (Jochelson, 1994) where *0.5 per 100,000* was the average rate. The latter figure relates only to crime, whereas the Illawarra report includes sexual harassment and 'being bothered by strangers', which in fact together make up 80% of the victimisation experiences (a rate of 160/100,000). If only crimes are considered the rate is 40/100,000 - which although considerably less is still some 80 times greater than the average Bureau rate. Even if the *highest risk time* reported in the Bureau statistics *ie* 18.6/100,000 late on Saturday nights/early on Sunday mornings, is specifically compared to the *average* victimisation rate of 40 it is still less than half.

A series of victimisation surveys, with larger samples, would have to be embarked upon to further verify these discrepancies. Until that time, all interpretations of officially recorded

⁹ see also: Stanko, 1988, 1990; Sterner 1987, Warshaw, 1988

statistics should be treated with caution. Weiser-Easteal and Wilson (1991), similarly, state that transit authorities often fail to conduct victimisation or pattern analysis studies to determine the exact scope of their problem before implementing remedial measures. In any event, *harassment* must be taken into account as a vital element in the reality of rail use for commuters *ie* due recognition must be afforded to the real and serious impact that *non-illegal* harassment incidents make upon the travel choices and experience of rail users.

Official recorded SRA rates (Station Incident Reports or SIRs) indicate that by far the most prevalent crimes committed on stations are vandalism and graffiti (see Figure 1, over).

Because crimes against property are visible, they can be easily quantified. More insidious, and possibly more prevalent, are offences against persons, and harassment, as suggested by the victimisation research reported above.

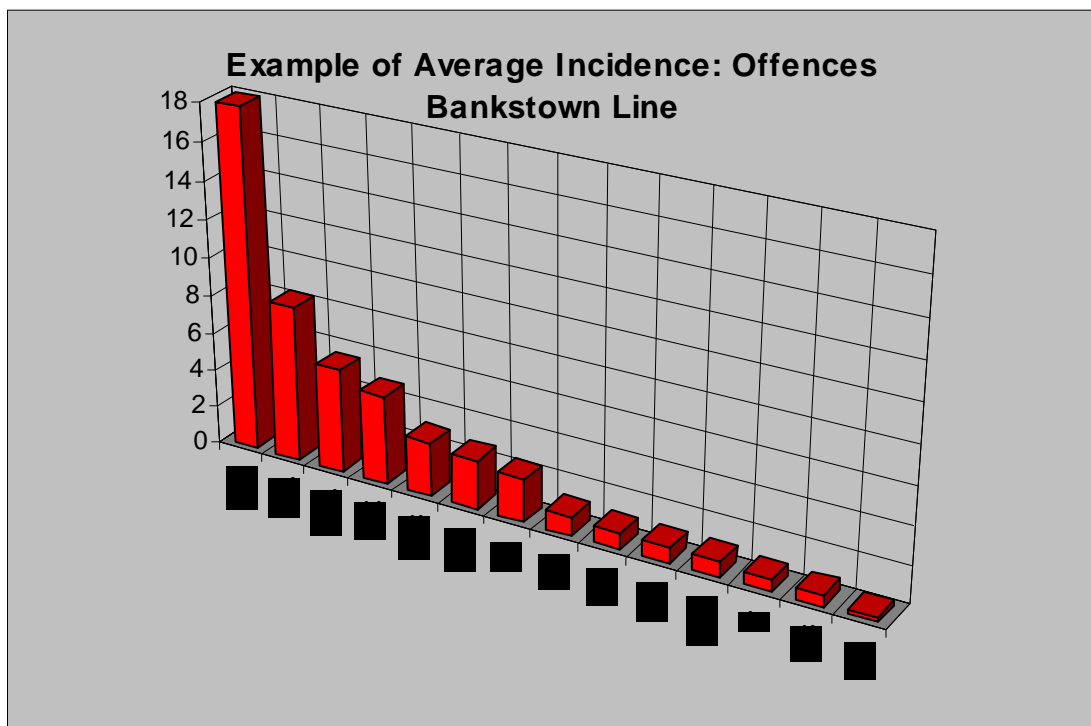


Figure 1: Distribution of crimes on the Bankstown Line

It is interesting to note, also, that the NSW Bureau report on station crime indicates the time of highest victimisation as late on Saturday nights/early Sunday mornings, and week-end nights generally; while the patterns in the SRA SIR reports, which refer largely to recorded

crimes against property, see almost random. On occasion, incidence is highest on weekends, but often the highest incidence is on a Monday, or Thursday, or Wednesday. Possibly due to the fact that a lot of vandalism and graffiti occurs afterhours, when stations are ostensibly closed, this pattern might be reflecting idiosyncratic patterns of certain groups of youths, and thus does not have an overall temporal distinctiveness, like crimes against the person. Wilson (1987) showed that there are similarities across cultures, in the sense that the greatest incidence of graffiti occurs in off-peak periods in Paris, London, Hamburg and Australia.

A range of reasons why victims *fail to report* have been suggested (Kidd & Chayet, 1984), although work specifically related to rail users is not available. Victims tend to view reporting as ineffective/futile (perceive the police and authorities as powerless) and inconvenient (time and money will be lost as a result of following through a report). A fear of recrimination or retaliation (where the offender is known - very relevant in situations of acquaintance rape, domestic violence, and gang intimidation of commuters on stations) is of course very real. Most importantly, a victimisation experience represents a situation where personal control was ceded/lost and a victim's understandable psychological reaction is to avoid feeling pain and anxiety or fearful and vulnerable again. In order to regain/preserve their self-esteem they would want to forget and rationalise the experience, not reinforce it by reporting it and thus re-live the situation again and again by explaining, describing, and recounting it. Similarly, they may wish to avoid having contact with any persons or organisations that might treat them as victims; or which require them to once again face their tormentors.

Since often a victim's fear is not reduced by reporting crime to authorities, an alternative available to the victim is to report the incident to friends and family. This 'in-community' reporting, in turn, generates a kind of secondary victimisation, a 'vicarious experience with crime' (Lavrakas, 1981), where the social networks of victims experience emotional reactions similar to those of the victim (Friedman et al, 1982). The Illawarra study identified that where commuters had witnessed a crime their 'sense of vulnerability' or 'sense of insecurity' was enhanced. Respondents acknowledged having witnessed acts of victimisation at a rate of 170 per 100,000 rail journeys. If acts of vandalism are excluded the figure is

136/100,000 *ie* the majority of these vicarious experiences relate to incidents where *persons* were involved.

1.9 Avoidance Behaviour

The fact that women have greater fear about public places is well documented. A recent poll in Canada showed that almost 90% of women respondents restrict their activities for self protection (Ottawa Citizen, 1991). Similarly, Trench et al (1992) showed that about two-thirds of their women respondents were afraid to go out at night alone, and significant numbers would not use the public transport. The defensive position in which women are placed vis-à-vis men means that 'wherever they are, their peripheral vision monitors the landscape and those around them for potential danger' (Stanko, 1990). Environmental cues alert women to the possibility of personal danger, for example, places such as abandoned buildings, parks, vast carparks whether underground or in lots, dark alleys and places where getting away or calling for help would be difficult. Dark, unattended, sparsely used platforms of stations would fall into this category. Most men would also try to avoid places like these, but the risks are proportionately greater for women because of their sexual vulnerability and the physical prowess of men in general.

Susan Thompson, in the Foreword to the 'Ask Any Woman' study (Safe Women - Liverpool Project, 1994) says that as equal members of a democratic society women should be able to move freely about the urban environment and not have to restrict where they go. Respondents to the Liverpool phone-in could clearly identify places in which they felt safe and how this perception changed with the time of day and who else was also using the space. The place identified as being of most concern and having a very unsafe image was Liverpool Station (41% of responses), followed by its surrounding areas (carparks 20%), and parks in general (10%). Factors relating to the station were identified as: isolation at night, poor lighting, the presence of threatening groups and excessive alcohol consumption. Three hotel/pubs are clustered within a block of the station.

1.10 Criminal Victimisation, and Harassment

In the case of crimes against persons, wherever they occur, offenders have to make judgements about a victim's character, strengths and weaknesses, and the likelihood that others will come to their defence. Here it is the person's vulnerability (accessibility to self) rather than that of a building, a neighbourhood or a station that is interpreted; and the strengthening of potential victims by dealing with 'victimisation personality types' is crucial to crime prevention.

Criminal Victimization Surveys

As previously discussed, considering the low rates of reporting of personal harassment events (sexual harassment in particular) the reality of the situation on campuses, housing estates, inner city zones and stations cannot be appreciated and adequately responded to, unless attempts are made to unearth unreported offences. The technique employed since the early 1980's is the criminal victimisation survey, conducted at both national and local levels.

An important development of such victimisation surveys is the *micro-victimisation* survey, which is the most relevant form of survey for understanding CPTED and situational crime prevention - since it focuses on the personally experienced incident in particular places and at particular times.

Examples drawn from several victimisation surveys are presented below:-

- An extract from the First Australian National Crime Victim Survey, 1975 (Braithwaite and Biles, 1980), indicates that offences against the person were shown to occur predominantly *at night* - robbery with violence 83% of the time, assault 70% of the time, and rape/attempted rape 60% of the time. The focus on the amelioration of conditions on stations afterdark, in the research reported here, is reinforced by such findings.
- The Illawarra victimisation study (Aungles et al, 1994) indicated that women experienced more victimisation than men (57% of the respondents compared to 20%); 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.

- The British Crime Surveys (BCS) were national victimisation surveys conducted in 1982, 1984 and 1988 in the UK. Findings in those surveys have important implications for the study reported here. The BCS found that fear of crime is more of an issue than the actual occurrence of crime, that young men were more likely to be victimised,¹⁰ and that risk was associated with lifestyle, *eg* the number of evenings spent outside the home, particularly on weekends, and the frequenting of pubs, all increased the risk of street robbery. Where women follow similar lifestyle patterns their risks have been found to be similar to those of men (Gottfredson, 1984).

However, criticisms levelled at the BCS include arguments that high and low rates in different areas were aggregated, thus masking the real geographical spread; and that the concentration on women's fears, and on *legally defined* crimes committed against them, led to an exclusion of their everyday, *commonplace experiences* of racial/ethnic abuse and offensive behaviour directed at their sexuality in public places. Albeit not criminal, this phenomenological reality constitutes a form of victimisation which impacts significantly on their quality of life or their 'lived reality of social experience' (Painter, 1992).

The issue of differential perceptions of crime is highly relevant. The differences between 'legally' defined high crime areas (or crime hot spots) and those which residents perceive as crime prone can be substantial. Brantingham and Brantingham (1991/b) report on a study they undertook which identified differences between resident and business owner explanations. Residents considered high crime areas to be those where nuisance behaviour occurred (noisy kids congregating, *eg*), while business owners reserved that definition for areas where shoplifting occurred. We would expect the elderly, and women, to have different perceptions again, as would people from different cultures. Routine activities and expectations determine to a large extent the behaviours that are considered to be objectionable.

¹⁰ The National Crime and Safety Survey (Castles, 1993) found similarly that males aged 15-24 were most at risk.

- **Micro-surveys** were carried out in London in the latter half of the '80's, which concentrated on small areas in inner city boroughs (at the level of streets and estates, in Islington and Hammersmith/Fulham), and which led to a 'mapping' of criminal victimisation by locality, time and gender (Painter, 1989; Painter et al, 1989, 1990). These local victim surveys showed that in the inner city areas surveyed and on peripheral council housing estates, *women were proportionately more likely than men to be the victims of crime*¹¹ - which finding justifies their fear of crime as being realistic, and contradicts findings in national victim surveys. For instance, in Islington women were 40% more likely to be a victim of a street robbery than men, (equally likely in Hammersmith and Fulham), and twice as likely to be assaulted (and violently). Sexual assault in Islington was also shown to be 14 times higher than the BCS averages, and was particularly prevalent amongst 16-24 years olds. Moreover, women experienced greater levels of threatening and abusive behaviour in public places (reported by 43% of respondents in Islington).

Kate Painter succinctly sums up the issue: 'To put it bluntly, the women surveyed do not fear crime, they fear men'.

Again, such insights about the vulnerability of women to crime and harassment in public places are highly relevant to an understanding of fear of crime and crime prevention on stations and trains.

1.11 Sense of Community and Crime

Stakeholders are those people who have a special interest in an issue or area. Understanding their needs and preferences, and including them in neighbourhood and station decision-making at all levels enhances their involvement in day-to-day caring for, and investment in, their local areas. This is also called community empowerment, or territorial appropriation, or manageable space (Perlgut, 1982). Community involvement sends a message to potential offenders that a place is 'owned' (involving rational choice/risk-reward trade-offs).

¹¹ confirmed in the Illawarra study (Aungles et al, 1994)

An important issue concerning community involvement is *the stage* at which they become involved. If their role is reduced to 'comment' about a new proposal, during a conventional 14-day public scrutiny period *ie* after the real decisions have been made, this is notional involvement. The community must be involved at the pre-design and pre-planning stages, when priorities and alternatives are being considered, and at every other stage of development and use, including post-occupancy management periods, and when projects are being evaluated.

The structure and organisation of a community affects the crime it experiences over and above the individual characteristics of its residents (See: Latessa & Allen, 1980; Podolefsky & Dubois, 1981; Greenberg et al, 1982, 1984; Wates, 1987; Rosenbaum 1987, 1988; Lavrakas & Bennett, 1988; Hope and Shaw, 1988; Shapland, 1988; Waller, 1989; Reiss, 1986; RCMP 1990).

Similarly, perceptions by criminals of a community's resolve and commitment to a place will influence their behaviour, and the image that comes over can be vital in this regard. Community Education, particularly of school-going youths, must be part of an overall approach to train and station safety. The 1985 SRA initiative RailSafe was aimed at modifying children's behaviours and attitudes with regard to public property and the rail system.¹² Some 40,000 school children were targetted each year, but 'after 5 years there was no evidence that children's behaviours had changed or that there was any reduction in vandalism' (Jones, 1990). This confirmed USA studies. A new RailSafe strategy was implemented to target parents, communities, local government, staff, police and the media as well as children aged between 5-18 (using games and worksheets), at targetted schools. Evaluations indicated that there were now reductions in offences and in trespass over railway lines. One endemic problem with school education strategies is that some or many of offenders will not be attending school. In this regard, the Victorian Public Transport Corporation's Travel SafeBus, which features videos and other displays, visits not only schools but community festivals, agricultural shows etc (Spring, 1991).

¹² The RailSafe program for staff focused on trying to develop a 'corporate image' at stations with regard to control of vandalism

Another educational approach is to develop posters with anti-vandalism/graffiti messages; to have an advertising campaign to raise environmental consciousness using the media, cinemas, TV; and to encourage reporting of vandalism and indeed harassment of any sort to officials. In 1980, a Community Safety Patrol was established, in California, made up of local retirees with walkie-talkies linked to the police network, who began strolling the streets, the parks, the shopping centres - and crime in the neighbourhood declined by 48% (Castleman, 1984). The principle is based on capitalising on an assertive elderly person's moral authority *ie* it is clearly a 'scolding and shaming' campaign. It is estimated that some 5 million Americans in 20,000 communities have now become involved in community civilian patrols. Before CSPs could be introduced in Australian cities or as patrols for station domains, communities would first have to be asked whether they find this acceptable, as would police bodies which would have to liaise with such volunteers. And issues of indemnity assurance and personal insurance for volunteers would be vexing issues to resolve. The image of armed elderly vigilantes roaming the stations is of course inaccurate - in any event they would be unarmed, and at best would be in radio contact with each other and the local police. Given that the state of crime in Australia is nothing near the scale of crime in American cities, much debate would have to ensue before the introduction of community policing could even be considered. It is mentioned here simply to indicate that communities can take matters into their own hands when sufficiently motivated, and circumstance are sufficiently demanding, and can actually have an impact on crime.

1.12 Soft Architecture and Community Art

Environmental Design and Management may help encourage *virtuous* behaviour by creating a sense of satisfaction and well-being as a result of the benign and aesthetic quality of the environment. Appearance is associated with feelings of satisfaction and attachment, and suggests to the potential offender that an area is under control (Fried, 1982).

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

quality of the locale. 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 rail authority), whereas a disruption of 'territorial control' processes engenders high fear levels (Taylor et al, 1981).

Although proprietary attitudes usually revolve around resident's feelings about their neighbourhoods, and the station is a public place, unassigned and not perceived of as a neighbourhood or community responsibility, this perception can be altered.

The notion of the *station domain*, or the station as *neighbourhood or civic centre* is discussed below (see 1.13). Here, some strategies to attain this state of affairs are briefly discussed, focusing specifically on issues of community art, neighbourhood renderings of local history, placemaking exercises, and working with graffiti artists.

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, Livability and Community Spirit

Partnerships between planners, artists and urban communities can reclaim streets and public places for the community.

The New York City Transit Authority's Creative Stations program was possibly the initiator of 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 (\$5,000 for each).

Partners for Livable Places is a Washington DC based initiative which developed a program called Shaping Growth in American Communities. Knox, a community of about 100,000 people just 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' by Bob Hawke. 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 is to improve the built environment and civic facilities with the active participation of the residents themselves. A festival site for community celebrations was established, ceramic and timber totem poles, planter pots and stained glass windows created, bus shelters decorated, sound playgrounds for children constructed, etc. The council now has a 'PlaceMaker team' consisting of three full-time artists who either create community art or commission and liaise with local craftspeople and architects and landscape architects. The program has resulted in a significant reduction in graffiti and vandalism (McMurray, 1987, 1990). These ideas can be readily transposed into a station domain setting.

A similar community art program has been 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).

Telecom has also involved itself in a community art program. Their "Adopt-a-Phone" program is an attempt to re-establish the public payphone as a community resource and encourage community members to assist in caring for it. The program is mostly aimed at school children, who design and paint a motif on the payphone cabinet, clean it and regularly check its condition (Challinger, 1990).

Noel Buchanan (1990) works with graffiti writers and spray artists, finding legitimate outlets for their work. It is apparently 'street kids' who are into drugs, violence and vandalism rather than graffiti gangs as such (SMH, 18 Sept 1988); but the image of a graffitied station undoubtedly impacts on rail-user's perceptions of the facility as one *uncared* for by the

authority and, presumably, one where they might anticipate an *uncaring* attitude towards their personal well-being and safety.

Kath 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.

Other examples are of a cultural mapping exercise, initiated by Community Arts Marrickville, 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. As a result of its strengthened links with the locals, Community Arts Marrickville has been able to persuade the council to undertake broader consultation about the Newtown Bridge redevelopment, and the reshaping of the area around Newtown Railway. In similar vein, a unique playground, with a path mural, has been created working with local children and their parents in St Francis Street, Newtown.

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 the 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, 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. Sydney City Council has plans for another mural along a wall near the railway tracks.¹³

Murals in the Central Railway-Bus Interchange subway have remained virtually untouched. An example of the impression given by hard and soft subways is presented overpage.

The station domain could be a natural locale to bring together community artists, graffiti writers or AfterDark Artists, local craftspeople, architects, landscape architects, and local school children - all under the auspices of the local council and the SRA, in order to turn stations into livable and habitable places where people feel proud, relaxed and safe.

1.13 The Station as a Natural Neighbourhood Centre

Mixed Zoning and Night Animation

The anticipated consequence of the inclusion of local residential, commercial, recreational, educational and transportation facilities in an urban *domain* or metropolitan *fabric* is the 'populating' of these areas, resulting in a heightened 'animation'¹⁴ during the daytime hours and, particularly, at night. In principle, 'eyes on the street' (Jacobs, 1961) 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

¹³ see also: Design, Art and Architecture in Transportation, 1977-1980; Cockcroft, 1977; Heder & Shoshkes, 1980; Beardsley, 1981; Haigh, 1982; Humphries & Monk, 1982; Volker, 1982; La Pietra, 1983; Beahan, 1990; Barrett-Lennard, 1992; Barnes, 1995.

¹⁴ 'un-animated' places are referred to in the research reported here as 'dormant' places.

to alert the police).¹⁵ Jacobs 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.

Where land-uses do not have continuous occupancy there is a gap in the socio-spatial fabric, and because surveillance is lower these places - *ie* at the 'territorial interstices' - 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 (robbers choose 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).

There are also arguments against mixed zoning. Where there are more people there are also potentially more strangers, and more potential offenders. Studies have shown that residents near small commercial centres expressed feelings of less control and thus more fear (McPherson et al, 1983); and access from non-residential land-uses to housing increased 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. In terms of the 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. A list of possible facilities which would be compatible with security at stations is offered in the Best Practice Model (Section 2), in the Night Animation and Station as Neighbourhood subsection.

Station Function, Purpose, Designation

A re-consideration of the intended function or purpose (or 'designation' - Crowe, 1991) of stations is an issue that is fundamental to a central recommendation contained in this research

¹⁵ 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'.

into station security. It is suggested here that where a station is perceived of as merely a place to catch a train, as quickly as possible, it is likely to continue to be exploited as a soft target by criminally motivated or otherwise disturbed, a-social or illegitimate users. Where a station is perceived of as a place where other essential and safe functions/facilities are also 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. Women responding to the Ask Any Woman survey cited shopping centres as being the safest places (60% of responses). Combining the shopping centre ambience with travel functions could benefit both, given that travel requirements naturally congregate people. People attract people.

Stations *are* natural neighbourhood centres. A concentric zone model applies well to them,¹⁶ since their unique roles as *nodes* along the articulation system (the arteries into the heart of the city) inevitably draws people to them. This gravity principle could be capitalised upon. The station 'gestalt' or 'intuitive image' could be transformed from an image of a place isolated from the community *ie* public or unassigned space to an integrated community place, where neighbourhood personalisation is evident and permissible, and essential other urban functions are located.¹⁷ Also important in this perceptual and functional change is the treatment of the transition zone between the public and community space - between the street, paths and transit zones and the station domain. Here, territorial markers can symbolically indicate this transition (textures, colours, gradients, landscaping, symbolic boundaries) and 'placemakers' (signs of community art and embellishment) can help indicate this transformation from a public realm to a community realm.

¹⁶ The Chicago School of sociologists established the idea of concentric zones in cities, although the model is often inappropriate in urban contexts (Burgess, 1925).

¹⁷ The notion of delinquency and opportunity was put forward by Cloward & Ohlin in 1960. The Brantinghams (1991/b) confirm that individuals move through the opportunity map to sites where opportunities match their criminal intentions.

The integration of all public transit modes is critical to such a model - again, the essential draw of the people-moving function is central. Bus, coach, nightride, ferry and lightrail interchanges concentrate legitimate users. A lightrail link is already proposed from Central Station to the city and to the CityWest at Pyrmont/Ultimo. Lightrail will be *the* service of the future for city and innercity public transit, where 'CityLink' and 'InnerCityLink' lines could ultimately connect areas like Paddington, The Australian Technology Park @ Everleigh, Sydney University and Balmain to each other and the city. ¹⁸

The location of medium density housing in the vicinity of rail and lightrail nodes is a rational policy which should continue to be pursued by the Departments of Planning and Housing in their pursuit of sustainable urban design. ¹⁹ Given that an economically viable and safe public transit system requires many passengers at all times the residential density issue is critical to the success of rail systems. Clotfelter (1978), for instance, found a higher probability of victimisation on the New York subway system when ridership was low (midnight to 6am), confirmed by the NSW Bureau of Crime Statistics report (Jochelson, 1994).

InterAgency Responsibility ²⁰

An essential element of a vision of stations as neighbourhood centres would be an 'interagency responsibility' for them. Responsibility for the security of the 'station domain' should not fall on the SRA alone, but should be shared by other agencies including other transport authorities, state government departments, and local police, councils, businesses and communities, *inter alia* (Home Office, 1991; Samuels, 1995).

Similarly, surrounding land uses and the prevailing socio-economic status of surrounding neighbourhoods impact on station crime and malaise. The proximity of high schools

¹⁸ CPTED principles will also have to be applied to LightRail stations

¹⁹ *ie* residential density correlates directly with consumption of petrol and hence air pollution and climate change (CO₂) emissions (Newman, P. 1994).

²⁰ *see also Section 2.0 'Best Practice Model': under Territoriality/Interagency management and partnership*

(Ronchek & Lobosco, 1983), detox clinics, refuges, and pubs (Safe Women, 1994) tend to impact on station crime, harassment and malaise experiences. To have an impact on the situational relationship between the location of licensed premises and the incidence of street crime, assault in particular (Ronchek & Maier, 1991; Homel & Tomsen, 1992; Ireland and Thommeny, 1993) - and inebriated behaviour incidents occurring at stations, especially late at night after the pub closes - will require a concerted interagency effort, and include publicans.

Clean-Up Policy

A fundamental element of any approach to the control of vandalism and graffiti at stations (and on trains) is the 'clean-up' policy strategy (Sloan-Howitt & Kelling, 1992). The idea developed from the New York City Authority clean-up policy. Goodlatte (1990b) reports that in 1985 only a handful of the over 460 elevated and subway stations were graffiti free, but after The Clean Car Program (begun in 1984) the trains are now virtually graffiti free. Displacement did occur - to the stations themselves, and surrounding buildings, highway overpasses etc. A station cleaning program with some 1,600 staff and costing some US\$50m/year combined with station upgrading and restoration or modernisation, resulted in over two thirds of stations being graffiti free by 1990, and expectations are that by 1996 all stations will have been modernised or upgraded, and will be graffiti-free. This means, in reality, cleaning up some 25,000 graffiti acts each month at stations (McNulty, 1990). In other words, the strategy and funding for it are an on-going program, and the urge to write graffiti is not necessarily lessened or eliminated but seems to be contained - although the number of arrests for graffiti/vandalism on the NYC system did drop from 2,400 in 1984 to 300 in 1987 (Sunday Telegraph, 1988).

While cleaning procedures were being addressed by the NYC Authority several programs were also developed to gain the support of the communities. A Neighbourhood Adopt-a-Station program encouraged local residents and students to help clean up and paint the stations, and allowed them to install poster paintings and drawings in available, unused advertising panels. A similar program called Corporate Adopt-a-Station invited the business community to work with the Transit Authority to accelerate the pace of station improvements, with corporate funds used to enhance lighting, CCTV networks, signage etc,

as well as major structural modifications. The Creative Stations Program aimed to introduce art and decorative elements with ideas coming from the community, and an advertising program targeted at youths, called Wipe Out Graffiti, took place at school career seminars, street fairs and the Transit Museum.

The Clean Team train clean-up strategy in NSW (costing about \$25 million annually) and a clean-up program in the TravelSafe program in Victoria have adopted the NYC model. The costs of graffiti and vandalism on NSW trains alone was estimated at almost \$5 million in 1984-5, while about \$17 was spent in Victoria in 1989-90 (Weiser-Easteal and Wilson, 1991). Whether this represents a difference in the States or an escalation of the problem over time is not clarified, and more current figures have not been unearthed. In any event, the price that rail companies pay in lost revenue because of fear engendered in commuters by such malaise indicators, could be significantly higher.

1.14 The Nightsafe Domain - the epitome of CPTED

Personal safety and security seems to be closely associated with the time at which passengers travel (implicating routine behaviour theory), with the time of highest vulnerability and victimisation being afterdark. Consequently, the provision of nightsafe areas on platforms needs to be urgently re-examined, and converted from a nominally safe area to a *nightsafe domain* that incorporates and concentrates a broad range of CPTED ideas.

CPTED principles relevant to the establishment of a nightsafe domain range across the spectrum of issues relating to surveillability, accessibility and territoriality.

Surveillability aspects relate to:-

- quality, illuminance levels, and light/shadow sequencing of lighting, and also surface reflectivity, including the tiling of walls in the train tunnel where appropriate;
- removal of all sightline restrictions in this domain: especially the rationalisation of the siting of platform buildings and ensuring a view from the booking office to the domain, and also including the use of transparent materials in enclosures, a pitched roof over see-

through stairs, overhead walkways overlooking the domain, clear sightlines to/from carparks, kiss and ride, nightride, and taxi areas wherever appropriate, and the careful location of information boards and the removal of vending machines and billboards;

- adequately monitored, conspicuous and clearly advertised CCTV;
- vandal-resistant help points and commuter phones;
- random policing by uniformed officers, with police (and staff) having the authority to remove loiterers.
- late-night animation facilities should be located in the nightsafe domain (wherever feasible)
- of vital importance is the management of train movements to ensure that night carriages always stop in this domain *ie* train movements should conform to the configuration of the nightsafe domain, not the opposite, as is now the case - the consequence of which is the offsetting of nightsafe areas from one another.

Accessibility issues relate to:-

- the natural congregation of passengers via the adjacent placement of stairs and escalators with the domain, and the closure of peripheral circulation routes afterdark;
- ensuring that all access routes to the domain are as direct as possible, have convex nodes at their intersections, are well lit and under CCTV surveillance;
- an automatic pay-toilet should be located here, as should at least two pay-phones;
- the entire area should be weather-proof;
- the proper enclosure of the station itself, including the adequate fencing of the tracks for at least several hundred yards in all directions, would not only allow the station territory to remain inviolable afterhours, but, indirectly, would help ensure that the nightsafe domain is not colonised or invaded by people gaining illegitimate access to platforms.

Territoriality issues relate to:-

- the generation in this domain of a sense of quality through the careful design and embellishment of the area via community partnerships, in order to foster a proprietary sense - murals, sculptures, totem poles etc designed and executed by the community should be located in this domain;

- management should ensure the strictest upkeep in the domain, via the of removal of graffiti and litter, regular re-painting and re-decoration, and the maintenance of lighting and telephones;
- any subway access to the nightsafe domain should, similarly, be embellished with soft architecture.

An information and advertising campaign should accompany the above measures, in order to ensure that the message is widely received by both legitimate and illegitimate users.

The emphasis given to community and interagency aspects of CPTED in this research, recognises the essential importance of *motivational* aspects of crime prevention and life quality enhancement, but does not address the issue of social inequality and economic disadvantage as precursors, or social development strategies as pre-emptors, of crime.