

Crime prevention through environmental design (CPTED)

22 July 2008

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Crime prevention through environmental design: IKEA Tempe

Prepared for Valad

PO Box N817

Grosvenor Place NSW 1220

22 July 2008

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Directors	Roberta Ryan and Jackie Ohlin
Senior Consultant	Zoe Cox
Consultant	Mary Cocurullo
Support Staff	Jill Yeomans
Job Code	KAJ24708

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Executive Summary

This report has been prepared for Valad Property Group. It explores the public safety implications of Valad Property Group's proposal to develop IKEA retail and commercial facilities in Tempe, Sydney, and provides guidance to support a design process that is responsive to community safety requirements, and proactive about limiting crime in the vicinity. The study concludes that the proposal is well progressed in terms of crime prevention and public safety, though there are still a handful of measures that may be beneficially incorporated into the design and site management planning.

The proposal

The project application will seek approval for:

- a new IKEA showroom and warehouse totalling approximately 36,400m²
- car parking for approximately 1,800 car spaces
- a new Australian commercial headquarters for IKEA, adaptively reusing the historically significant portion of the Ateco building, occupying approximately 3,000m² of commercial office floor space over two levels.

Aims of this study

To influence the design of the development by:

- increasing the perception of risk to criminals by increasing the possibility of detection, challenge and capture.
- increasing the effort required to commit crime by increasing the time, energy or resources which need to be expended.
- reducing the potential rewards of crime by minimising, removing or concealing 'crime benefits'
- removing conditions that create confusion about required norms of behaviour (NSW Department of Urban Affairs and Planning, 2001).

The assessment of the internal layout of the proposed development has been conducted with the aim of identifying and recommending design features that:

- maximise safety for staff
- reduce opportunities for malicious damage to stock and infrastructure
- reduce opportunities for shoplifting and loss of stock
- maximise safety for customers
- reduce opportunities for crimes against customers.

Methodology

The following tasks were undertaken in the preparation of this CPTED assessment:

- site inspection on 23rd June 2008
- review of the proposed plans and designs with architects
- review of the following documents:

- Marrickville Council's *Community Safety Development Control Plan 38*
- Marrickville Council's *Safety in Marrickville Plan*
- *Consultation Report: IKEA Tempe*, prepared by Urbis December 2007
- collection and analysis of local and NSW state crime statistics from the Bureau of Crime Statistics and Research (BOCSAR)
- consultations with Marrickville Council Staff and Newtown Local Area Command.

The safety audit included:

- analysis of contextual crime data which identifies the level and type of crime most likely to occur in or around the development
- assessment of the function of the proposed development, and recommendation of management measures to increase community safety
- assessment of the proposed design, to identify security measures to increase community safety.

Conduct of a safety audit in the current NSW policy and practice environment involved consideration of the following regulation and assessment principles:

- CPTED principles endorsed by NSW Police
- Section 79C of the NSW Environmental Planning and Assessment Act, 1979 (EP&A Act), which includes guidelines for the consideration of safety issues in the development approvals process.
- NSW Department of Urban Affairs and Planning, *Crime Prevention and the Assessment of Development Applications* (2001).

Key findings of this report

Crime and safety in Tempe

- The level of crime in Tempe and around the proposed IKEA development site is not considered to be significant.
- The Princes Highway has been the site of a number of pedestrian incidents, and as such will require careful planning for pedestrian safety.

External design

Access and Pedestrian Safety

There is concern for pedestrian safety along the Princes Highway adjacent to the site. Congestion on the Princes Highway is already considered to be heavy during peak hour, thus emphasising the need for at least one controlled pedestrian crossing at the intersection on the Princes Highway to prevent unauthorized crossings. There should also be a clear separation of pedestrian and vehicular activities with clear sight lines and signage, directing people to the entrance from the street front and from within the car park. The Traffic Report (undertaken by Transport and Traffic Planning Associates) proposes a new traffic signal controlled access intersection on the Princes Highway frontage with separate right and left-turn bays (for car access) which is likely to alleviate current pedestrian safety concerns and vehicular access concerns.

Loading Dock Access and Security

The Bellevue Street entry point and back access road to the delivery/loading dock area (located adjacent to the Pretty Girl factory) is potentially a 'high risk' area due to its social isolation, limited natural surveillance and proximity to the container storage yards in the adjoining property. The entry to the delivery/loading dock will require some form of active surveillance such as CCTV cameras, roving

patrols or after-hours security to avoid unauthorised access. Newtown Local Area Command also pinpointed the area as a potential gathering place for undesired persons after hours.

Lighting and Fencing

Good lighting deters crime and produces a more secure atmosphere. Lighting will be a key detractor of criminal activity on the site. Adequate lighting will improve natural surveillance, control access around the site (by directing and controlling the attention of people to a particular area), and will help to display important information to the public. Areas of isolation such as the rear car park of the IKEA main store, delivery/loading dock area, eastern end of the carpark and frontage of the Ateco building, and pedestrian pathways should be well lit to enable facial recognition.

There should be secure fencing of sufficient height around the site, particularly along the back of the site between the car park, Bellevue Street and container storage yards, and the loading dock and adjacent factory/warehouse to prevent unauthorised access.

Open Space and Landscaping

While landscaping and open-space planning are yet to be finalised, the following principles should be considered in the final designs:

- Landscaping around the premises should not impede key sightlines or visibility of main access points
- Paths should not lead people into areas that may be dead ends, areas of entrapment or which may cause directional confusion
- Cycle ways should where possible provide a clear line of sight along the length of the path and bicycle parking should be provided in an area that enables passive surveillance.

Note: we understand there is intent for the retention of the Ateco heritage building at the front of the site for use as the national IKEA head office. The remaining space within the building may be used as a bulky goods showroom, which would therefore require a safe, well-lit and accessible entrance at the interface between the two buildings.

Internal design

Overall, the proposed internal layout is congruent with CPTED principles, maximising the large amount of natural surveillance that is provided by both IKEA employees and customers.

Proposed measures for mitigation and enhancement

It is suggested that the following be incorporated into Valad Property Group's final proposal.

Onsite security

- installation of CCTV cameras throughout all car parking areas (in particular, rear and delivery/loading dock area where permeability is obscured) and if possible, regular security patrols through these areas.
- external lighting (including sensor lights after hours) to a standard that enables facial recognition in all car parking areas, the loading dock, and key pedestrian access points. Monitor lighting standards in external areas adjacent to site.
- use of transparent, secure fencing of a sufficient height; landscaping to provide border definition of the site; and closure of the site after hours to deter unauthorised entry.
- implementation of after hours management measures (i.e. CCTV, roving security patrols) for the Bellevue Street entry point to the delivery/loading dock, to address potential loitering or malicious damage to property.
- consideration of varying delivery times and schedules to the loading dock (along the Bellevue Street access road) to deter the possibility of organised theft.

- establishing an information/security point at the entrance to the car park to monitor car and customer movements to and from the site.
- maintenance of clear and prominent signage, changed at regular intervals, warning people not to leave their valuables in their cars.
- use of robust materials be used in finishes throughout the store to reduce likelihood and cost of malicious damage such as graffiti.

Traffic management and pedestrian safety

- use of clear signage in relation to pedestrian access and path-finding from the street front and car parking areas.
- use of traffic control personnel at the main entry to marshal vehicles and pedestrians during peak times or events, e.g. store opening.
- ensuring that external doors are flush with walls.
- ensuring that lighting is improved along the frontage of the site (Princes Highway).

Internal safety and security

- The use of security access cards should be adopted for all staff. This is recommended to restrict movement of non-authorised persons beyond the general public area. This is particularly important in relation to the lower ground floor access to the IKEA Office Building.
- Provide active surveillance such as CCTV and security patrols. This is particularly important in the loading dock, home delivery dock, waste storage and basement areas.
- Lighting must comply with AS1158/1680 and there should be sufficient light distribution and light levels to ensure that users of the facilities are safe.
- IKEA employees should follow their established cash management procedures.
- Doors leading from public to staff only areas such as those on the ground floor loading dock and upper ground floor should be locked with access only for authorised people. These should be identified by signage, change of colour or texture to limit confusion.

1 Introduction

Valad Property Group engaged the Urbis Social Planning and Research Team to conduct a crime prevention through environmental design (CPTED) assessment of the likely community, staff and customer safety implications of the proposed development of an IKEA furniture store and administration building at the former Tempe Tip site. At the time of writing, the planning process is in the pre-DA stage, allowing feedback from stakeholders to inform the final design.

1.1 Aims of this study

The CPTED aims to influence the design of buildings and places by:

- increasing the perception of risk to criminals by increasing the possibility of detection, challenge and capture
- increasing the effort required to commit crime by increasing the time, energy or resources which need to be expended
- reducing the potential rewards of crime by minimising, removing or concealing 'crime benefits', and
- removing conditions that create confusion about required norms of behaviour (NSW Department of Urban Affairs and Planning, 2001).

Situational crime prevention involves changing various aspects of the environment so that the efforts and risks required to commit crime are increased, and offender's perceived rewards are reduced. Situational crime prevention is based on the assumption that people commit crimes for rational motives, and that people will only commit a crime when they perceive the benefits outweigh the risks.

Situational crime prevention is more effective for some types of crimes, such as those motivated by greed or opportunistic crimes. Crimes such as vandalism, assault, break and enter, theft, trespassing, and motor vehicle theft tend to be more responsive to situational crime prevention strategies. These are the types of crimes that most commonly occur in public spaces.

CPTED applies knowledge about situational crime prevention to the planning and design stages of buildings and public spaces. Key CPTED principles include:

- **Natural surveillance** – maximising opportunities for passers-by or residents to observe what happens in an area (the 'safety in numbers' concept). This may be achieved through, for instance, the placement of physical features, activities and people.
- **Access control** – control of who enters an area so that unauthorised people are excluded, for instance, via physical barriers such as fences and grills.
- **Territorial reinforcement/ownership** – people are more likely to protect territory they feel they own and have a certain respect for the territory of others. This can be expressed through installation of fences, paving, signs, good maintenance and landscaping.
- **Space management** – ensures that space is appropriately utilised and cared for. Space management strategies include; activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out lighting and the removal or refurbishment of decayed physical elements.

It is also important to distinguish between '**passive**' security measures (better lighting, enhancing natural surveillance) and '**active**' security (security guards, closed circuit television or CCTV). Effective use of the former can reduce the need and associated cost of the latter.

1.2 Proposed development

The proposal is to create an integrated employment hub comprising an IKEA centre and IKEA commercial office activities.

In summary the proposal comprises the following:

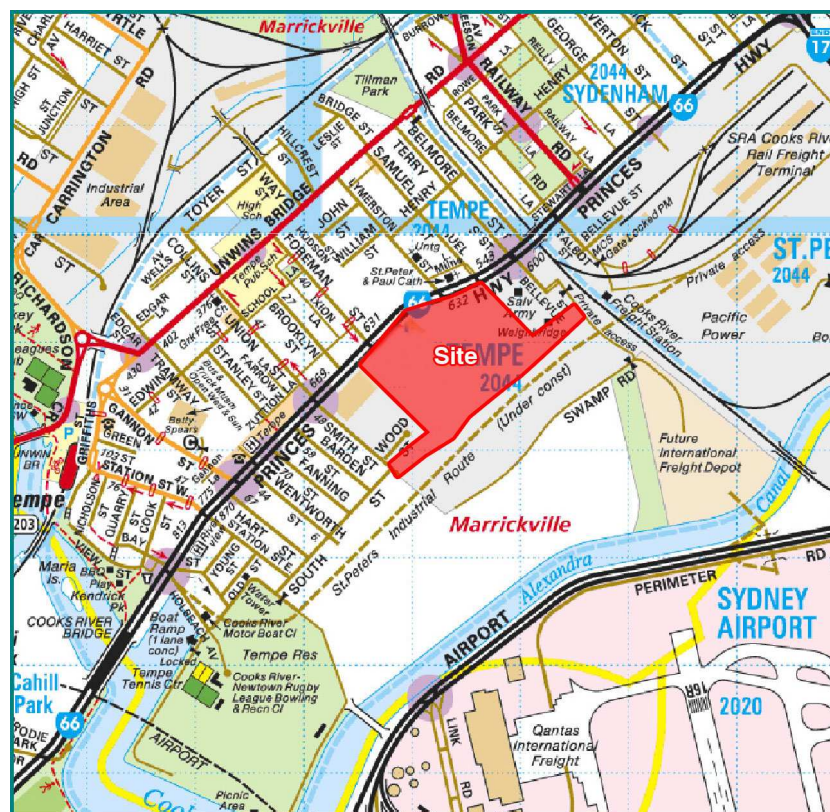
- a new IKEA showroom and warehouse totalling approximately 36,400m²
- car parking for approximately 1,800 car spaces
- new Australian headquarters for IKEA, adaptively reusing the historically significant portion of the Ateco building, occupying approximately 3,000m² of commercial office floor space over two levels.

The development would be master planned in order to integrate public domain areas, landscaping and proposed open space areas.

1.3 Site location and historical context

The proposed IKEA site is a 9.98 hectare area located at 634-726 Princes Highway, Tempe, in the Marrickville Local Government Area (LGA). The site has frontage to the Princes Hwy and is bounded by Bellevue and Smith Streets. Tempe Business Centre is located to the west of the site and is bounded by the Princes Highway, Tramway Street and Union Street. Residential and light industrial areas are also directly opposite the site to the west. The site is approximately 9km south-west of the Sydney CBD, 2km west of Sydney Airport, and within close proximity to Sydenham and Tempe Railway Stations.

Picture 1 – Location of site aerial photo



The legal description of the site is Lot A in DP 385289 and Lot E in DP 385210.

The site is commonly known as the former Tempe Tip. The part of the site being considered for development is vacant, zoned light industrial due to be developed for bulky goods. The land is contaminated, due to its previous uses. It is understood that the capping and raising of the site occurred in 2004.

The site is within the Marrickville local government area. The area surrounding the site is zoned for light industry and there is some residential development (in three locations) opposite the site across the Princes Highway (which provides the north-west boundary to the site) and across Smith Street (to the south-west). The site is directly beneath a Sydney airport flight path. A major pipeline to the new desalination plant is also intended to run through Tempe.

Since it ceased use as a Tip, the site has been the subject of much speculation about its future, including discussion (in 2000) about allocating the area for community uses. One of the main drivers for this initiative was the Tempe Community Centre (an organisation which had provided services for older people, young people and CALD people across the LGA).

In March 2006, the then NSW Environment Minister, the Hon. Bob Debus, announced a \$17.5m clean-up program to transform the site into award-winning parklands, and wetlands – Tempe Reserve - at the northern side of Tempe Tip, adjacent to residences. It won the 2005 Case Earth Awards for environmental excellence.

2 Our approach

2.1 Methodology

The following tasks were undertaken in the preparation of this CPTED assessment:

- site inspection on 23rd June 2008
- review of the proposed plans and designs with architects
- review of the following documents:
 - Marrickville Council's *Community Safety Development Control Plan 38*
 - Marrickville Council's *Safety in Marrickville Plan*
 - *Consultation Report: IKEA Tempe*, prepared by Urbis December 2007
- collection and analysis of local and NSW state crime statistics from the Bureau of Crime Statistics and Research (BOCSAR)
- consultations with Marrickville Council Staff and Newtown Local Area Command.
- a safety audit, including:
 - contextual crime data which identifies the level and type of crime most likely to occur in or around the development
 - assessment of the function of the proposed development, and recommendation of management measures to increase community safety
 - assessment of the proposed design, to identify security measures to increase community safety.
- consideration of the application of design safety principles as they relate to the internal building structure. The internal CPTED assessment has given particular consideration to:
 - Entry/exit points
 - The location of amenities
 - Staff only areas
 - Checkout area
 - Location of café/bistro
 - Location of Smaland
 - Location of Food Market
 - Location of the IKEA loading dock offices and amenities
 - Location of home delivery dock
 - Garbage area
 - IKEA Office Building.

Regulation and Assessment Principles

Conduct of a safety audit in the current NSW policy and practice environment involves consideration of the following regulation and assessment principles:

- CPTED principles endorsed by NSW Police
- Section 79C of the NSW Environmental Planning and Assessment Act, 1979 (EP&A Act), which includes guidelines for the consideration of safety issues in the development approvals process
- NSW Department of Urban Affairs and Planning's *Crime Prevention and the Assessment of Development Applications* (2001).

3 Document review: local government policies

It is important that wherever possible, the final proposal should respond to, and support the local council's intentions for the site, and for Tempe more broadly. This section reviews the key policy and planning documents produced by Marrickville Council to promote public safety and crime prevention. The relevant information from these documents has been summarised here, and has informed the report's final recommendations for the proposal.

Marrickville Local Environmental Plan (MLEP) 2001

Clause 62 of the MLEP 2001 requires Council to consider community safety matters prior to granting consent to a development. With regard to community safety, the LEP states:

Before granting an application for development consent, the consent authority must take into consideration such of the following matters relating to the provision of community safety (if any) as are of relevance to the application:

- (a) the provision of active street frontages where appropriate,*
- (b) the provision of lighting for pedestrian site access between public and shared areas, parking areas and building entrances,*
- (c) the visibility and legibility of building entrances from streets, public areas or internal driveways”.*

As such, Development Control Plan 38 – Community Safety provides the detailed information to assist applicants and Council officers to satisfactorily address clause 62 of the MLEP 2001.

Development Control Plan No 38 - Community Safety

Marrickville Council developed a Community Safety Plan to complement the State Government's approach to crime prevention by setting out detailed objectives and controls for CPTED against which Council can assess all developments. The ultimate aim of the Plan is to *provide a co-ordinate, whole-of-Council approach to making Marrickville a safer place in which to live and work.*

The DCP outlines Council's approach towards enhancing community safety through CPTED and sets out the core principles for safety required to be addressed by all developments.

Of relevance to the proposed IKEA development are the controls for commercial and community developments detailed in Chapter 7 of the DCP. This section details the objectives, compliance controls and suggested and recommended strategies for design and best practice for commercial developments. Table 1 details key objectives for each relevant category.

Controls	Objectives
Location of buildings and Structures	<p>O1 To orientate buildings to maximise surveillance from the street to the building and from the building to the street to enhance the safety of building occupants and the general public;</p> <p>O2 To encourage a 'sense of community' by orienting buildings towards the public street;</p> <p>O3 To maximise the surveillance of the spaces within the development (such as car parks, communal open space areas and the like)</p> <p>O4 To ensure that access points to buildings and car parks are in clearly visible locations;</p> <p>O5 To encourage development which adjoins laneways, alleyways, parks and open spaces or other public areas to contribute to the safety of these areas by maximising opportunities for surveillance; and</p> <p>O6 To ensure any pedestrian and vehicular access to the subject site from a laneway/alleyway maximises personal safety.</p>
Design of Entrances	<p>O1 To ensure that pedestrian entrances to buildings are clearly visible from the street and can be easily located by users;</p> <p>O2 To minimise the opportunities for intruders to enter without detection.</p>
Design of Communal and Public Areas within Developments	<p>O1 To ensure communal and public areas associated with a development are clearly defined;</p> <p>O2 To encourage natural surveillance of communal and public areas by the building occupants and users; and</p> <p>O3 To encourage a sense of ownership of the communal and public areas by the building occupants.</p>
Blind Corners	<p>O1 To avoid the creation of blind or sharp corners along pathways or in stairwells, hallways and car parks as this inhibits surveillance; and</p> <p>O2 To provide treatments for blind corners where they are unavoidable in developments, to allow users to see ahead and around corners.</p>
Lighting	<p>O1 To encourage the use of external lighting to improve the safety and security of the development by improving its visibility after dark and deterring illegal access; and</p> <p>O2 To ensure lighting does not create adverse amenity impacts upon neighbouring properties.</p>
Landscaping	<p>O1 To ensure site landscaping:-</p> <ul style="list-style-type: none"> a) preserves opportunities for surveillance; b) minimises opportunities for intruders to hide or to climb into buildings or properties.

Shop Fronts and Other Building Frontages	O1 To ensure shopfronts as well as other building frontages provide for surveillance of the public domain and have a positive streetscape appearance.
Public Facilities (e.g. telephones, toilets)	O1 To maximise the safety, and sense of security of users of any public facilities which may be provided within developments by: <ul style="list-style-type: none"> a) locating these facilities in areas of high activity with maximum accessibility and visibility, and b) incorporating appropriate security features into their design.
Car park Access and Egress	O1 To facilitate ease of access and egress in car parks without compromising the safety and security of users.
Minimising Unintended Access	O1 To minimise unintended or unauthorised access to the subject or neighbouring premises by the appropriate design and location of built and natural elements.
Fencing	O1 To provide boundary fencing (where appropriate to the context of the development) which delineates public and private areas; O2 To ensure front fencing maximises surveillance from the street to the building and to the spaces and communal areas around the building; and O3 To ensure the design of front fencing minimises opportunities for intruders to hide.
Security Measures	O1 To reduce the opportunities for unauthorised access to buildings, individual dwellings and communal areas by the use of appropriate security devices, hardware or human resources; O2 To ensure that any security devices used will:- <ul style="list-style-type: none"> a) preserve natural surveillance of the street, b) be compatible with the design of the building and the streetscape and c) will not prevent escape in an emergency. O3 To ensure that sites are designed and managed to promote safety of the general public, staff and other users by:- <ul style="list-style-type: none"> a) ensuring the safe routes between key locations within the site; b) ensuring clear directions to key destinations outside the site eg: main roads, transport services, taxi are provided by adequate signage; and c) ensuring that a high level of surveillance is provided within the site.

Building Identification	O1 To provide clear numbering of all buildings to prevent unintended access and to assist persons (including emergency personnel) trying to find the place.
Boundary Delineation	O1 To reinforce the development boundary to strengthen the distinction between public and private space in order to establish a clear sense of ownership and discourage illegitimate use.
Minimising Opportunities for Vandalism	O1 To use building materials and design to minimise opportunities for vandalism in order to encourage a sense that the development space is well cared for.
Materials and Maintenance	<p>O1 To promote an image of a well cared-for development through the use of hardwearing materials and effective maintenance of buildings and spaces; and</p> <p>O2 To use building materials that enhance surveillance within car parks.</p>

Table 1 – Controls and Objectives for Commercial and Community Developments

Safety in Marrickville Plan

The Safety in Marrickville Plan was adopted by Council in 2003 and aims to establish a set of guiding principles for which to provide a physical and social environment where people are part of a strong community where they feel safe.

The focus of the plan is on community strengthening activities like creating a sense of neighbourliness and community harm prevention in addressing the underlying causes and risk factors for offending behaviours. The guiding principles for the implementation of the plan include:

- Establishing partnerships
- A commitment to social justice
- Ecologically sustainably development
- Harm minimisation philosophy
- Maintaining respect for human rights

Council is also addressing safety issues through the work of the Safety in Marrickville Committee, comprising of representatives of Council and other Governmental agencies. The Committee was established in June 2001 to co-ordinate and oversee the development, implementation, monitoring and evaluation of locally-based community safety policies and initiatives in relation to the Safety in Marrickville Plan.

The focus of the plan on community strengthening activities and creating a sense of 'neighbourliness' encourages passive surveillance and supports the CPTED principle of *personal and community 'ownership' of the outcomes* and of the public realm.

4 Demographic profile

This section provides a summary of the key social and demographic characteristics of Tempe, the suburb in which it is proposed the IKEA facility will be developed. The profile provides context, with comparisons to the broader Marrickville Local Government Area (LGA) and Sydney.¹

4.1 Population and age

There are 3,179 residents in the suburb of Tempe which makes up 4.4% of the total Marrickville LGA population (71,813 persons).

Table 2 – Age Distribution for Tempe and Marrickville LGA

Age	Tempe		Marrickville LGA		Sydney SD
	No. of persons	Percent of total persons	No. of persons	Percent of total persons	Percent of total persons
0-4 years	223	7.0%	4,274	6.0%	6.6%
5-14 years	309	9.7%	5,690	7.9%	13.0%
15-19 years	155	4.9%	3,053	4.3%	6.6%
20-24 years	186	5.9%	5,542	7.7%	7.2%
25-34 years	528	16.6%	15,754	21.9%	15.3%
35-44 years	604	19.0%	13,858	19.3%	15.3%
45-54 years	479	15.1%	9,572	13.3%	13.5%
55-64 years	332	10.4%	6,554	9.1%	10.2%
65-74 years	205	6.4%	4,183	5.8%	6.2%
75-84 years	134	4.2%	2,528	3.5%	4.5%
85 years and over	24	0.8%	803	1.1%	1.6%

Tempe has a significantly higher proportion of people of prime working age 25-54 years (54.6%) compared to Marrickville LGA (50.7%) and Sydney as a whole (44.1%). Conversely, there are a smaller number of children aged 14 years and under who reside in Tempe (13.9%) compared to Sydney (19.5%).

From 2001 to 2006, the fastest-growing age group in Marrickville, proportionately, was people aged 55-64 years, while the 15-24 years age group declined.

¹ All data derived from ABS 2006 Census QuickStats and Community Profile

Marrickville LGA is a culturally and linguistically diverse region with only 55% of residents born in Australia compared to 60% in Sydney. The main overseas birthplaces for Marrickville LGA are: Greece (3.6%), England (3.4%), Vietnam (3.3%) and New Zealand (2.7%), while for Tempe 4.6% were born in the former Yugoslav Republic of Macedonia, 3.0% in Greece and 2.8% in Vietnam, England and New Zealand.

The main foreign languages spoken by Tempe residents 'at home' are Macedonian (7.6%), Greek (5.2%), Cantonese (4.5%) and Vietnamese (3.1%).

4.2 Income and employment

The median individual income in Tempe is \$529 per week, slightly less than Marrickville LGA at \$595 per week, but more than Sydney at \$518 per week. The average household income across all three localities does not vary greatly – Tempe \$1,157, Marrickville LGA \$1,160 and Sydney SD \$1,154, however, there are less persons per household in Marrickville (2.3) compared to Tempe (2.6) and Sydney (2.7). While incomes overall are comparable with the median Sydney, there are low average incomes among young people (indicative of higher education student populations).

The predominant occupational category in Tempe and across the LGA is professional people, followed by clerical/service industries and trades. These occupations are divided on gender lines with more females in clerical and service areas and more males in professions and trades. The number of labourers is declining in the LGA and there are indications that the employment base in the community is becoming less diverse.

4.3 Housing and housing tenure

The majority of dwellings in Tempe are separate houses at 79.7%, significantly higher than the rest of the Marrickville LGA at 35.8%. Flats, units or apartments only make up 16.5% of the dwelling stock in Tempe, compared to 36.9% across the LGA and 25.7% in Sydney SD.

Rates of home ownership are high in Tempe with 65.8% of residents either owning their homes or in the process of purchasing compared to only 48.7% across the Marrickville LGA and 61.2% in Sydney SD. Similarly, the number of dwellings rented in Tempe (21.6%) is significantly less than those rented across the LGA (40.2%).

The average weekly rent in Tempe is higher at \$300 per week compared to \$250 across both Marrickville LGA and Sydney.

4.4 Social structure

Sixty-four percent of households in Tempe are families (mainly couple households) with a larger proportion (5.7%) of group households than for Sydney as a whole (3.9%). Lone person households across the LGA were considerably higher at 28% compared to both Tempe and Sydney at 22%.

Tempe has a larger proportion of couple families with children (44.4%) than across the LGA (38.5%). There are fewer married people living in Marrickville and more separated or divorced people, and many more 'never married', while Tempe has a higher percentage of married persons (42.6%).

4.5 Key characteristics of the Tempe community

The following are demographic features of the community of Tempe:

- **Higher residential density** - 3,184 people live in Tempe - 1,580.2 people per square kilometre
- **Household income is slightly less than the Sydney average** - average household income in Tempe is \$73,693 p.a., compared to \$78,850 across Sydney

- **Proportionately more infants** – 7.3% of the community is aged 0-4 years, whereas the Sydney average is 6.6%
- **A lower proportion of children and youth** – the percentage of residents aged 5-24 years is lower than the Sydney average
- **A higher than average share of 30-49 year olds** – the average age is 37.4, compared with 36.7 in the Sydney SD
- **More likely to own or be purchasing their home** – 75.8% of householders owned outright, or were in the process of buying their residence. This is compared to 67.5% for the Sydney population.
- **Less likely to own a car** – residents are moderately less likely to own a car (17.9% compared to 13.7% across Sydney) – and if they do own one or more private vehicles, they are still less likely to have as many as people living elsewhere in Sydney.

5 Crime profile: Marrickville LGA

The proposed development is located in Tempe which is part of the Marrickville Local Government Area (LGA). The crime figures discussed in this section of the report are those crimes that have been recorded by NSW Police, not necessarily *all* crimes committed in the Marrickville LGA. Levels of crime are sensitive to the willingness or ability of people to report crime, levels and nature of police activity and actual levels of criminal activity.

5.1 Reported offences in Marrickville LGA

Marrickville LGA has a higher than State average incidence of reported crime in robbery and motor vehicle related theft, and was ranked first in NSW for the highest number of incidents categorised as 'steal from motor vehicle'.

The three most reported offences occurring in Marrickville LGA during 2007 were:

- steal from motor vehicle (1,649 offences)
- malicious damage to property (1,398 offences)
- break and enter - dwelling (883 offences).

These offences occur in the public domain and would be sensitive to CPTED measures.

Pro-active responses to crime in the public domain would include:

- secure car parking facilities
- passive surveillance
- active surveillance
- anti-graffiti measures, and
- anti-vandalism measures.

The incorporation of recommendations included in this report into the design would ensure that the proposed development does not become attractive to perpetrators of these types of crime.

Decrease in the crime rate per 100,000 population for the LGA 2003-2007

There was a significant decrease in the crime rate for the following offences in Marrickville LGA between 2003 and 2007. The following figures in brackets indicate the crime rate per 100, 000 of the population for the LGA during 2007 and the average annual percentage change.

Robbery without a weapon (142.2 down by 15.9%), steal from person (194.7 down by 15.9%), break and enter – non dwelling (311.0 down by 15.1%), motor vehicle theft (756.6 down by 9.1%), break and enter – dwelling (1153.9 down by 7.0%), steal from dwelling (431.2 down by 7.0%) and assault – non domestic violence related (686.1 down by 4.0%).

NOTE: The annual percentage decrease in the crime rate from 2006 to 2007 was for robbery without a weapon, down by 33.1%, break and enter – non-dwelling, down by 26.8% and indecent assault, down by 11.6%.

Increase in crime rate per 100,000 population for the LGA 2003 -2007

There was an increase in the crime rate for the following offences in Marrickville LGA between 2003 and 2007. The following figures in brackets indicate the crime rate per 100,000 of the population for the LGA during 2007 and the average annual percentage change.

Malicious damage to property (1826.9 up by 7.4%) and steal from motor vehicle (2154.9 up by 5.4%).

NOTE: The only annual percentage increase in the crime rate from 2006 to 2007 was for sexual assault, up by a significant 57.7%.

NOTE: All other offences were 'stable' for this period.

Crime trend data for the period 2003-2007 for Marrickville LGA are represented in Figure 1, on the following page. The number of offences listed above (in addition to data represented in Figure 1) indicates an overall decrease in the crime trend for Marrickville LGA in recent years.

5.1.1 Comparison with selected NSW recorded incidents

The NSW Bureau of Crime Statistics also publishes crime statistics for NSW. Table 2 compares the NSW 2007 statistics with the statistics recorded in the Marrickville LGA per type of offence during that year. Offences that occur in the public domain and that would be sensitive to CPTED principles have been selected. Overall, data indicates that the incident rate for Marrickville LGA is higher than the NSW average.

Table 3 – Selected recorded criminal incidents and rates per 100, 000 population - Marrickville LGA and NSW

Area	Malicious damage	Rate per 100, 000 pop.	Robbery	Rate per 100, 000 pop.	Motor Vehicle theft	Rate per 100, 000 pop.
Marrickville LGA	1398	1826.9	220	287.4	579	756.6
Total NSW	107,343	1572.2	7739	111.3	26,875	393.6

Area (con't)	Steal from motor vehicle	Rate per 100, 000 pop.	Steal from retail store	Rate per 100, 000 pop.	Assault	Rate per 100, 000 pop.
Marrickville LGA	1649	2154.9	212	277.0	525	686.1
Total NSW	62,089	393.6	18,282	267.8	45,841	671.4

Note:

- Assault is not domestic violence-related.
- Robbery includes; robbery without a weapon, robbery with a firearm, robbery with a weapon not a firearm.

Source: NSW Bureau of Crime Statistics and Research

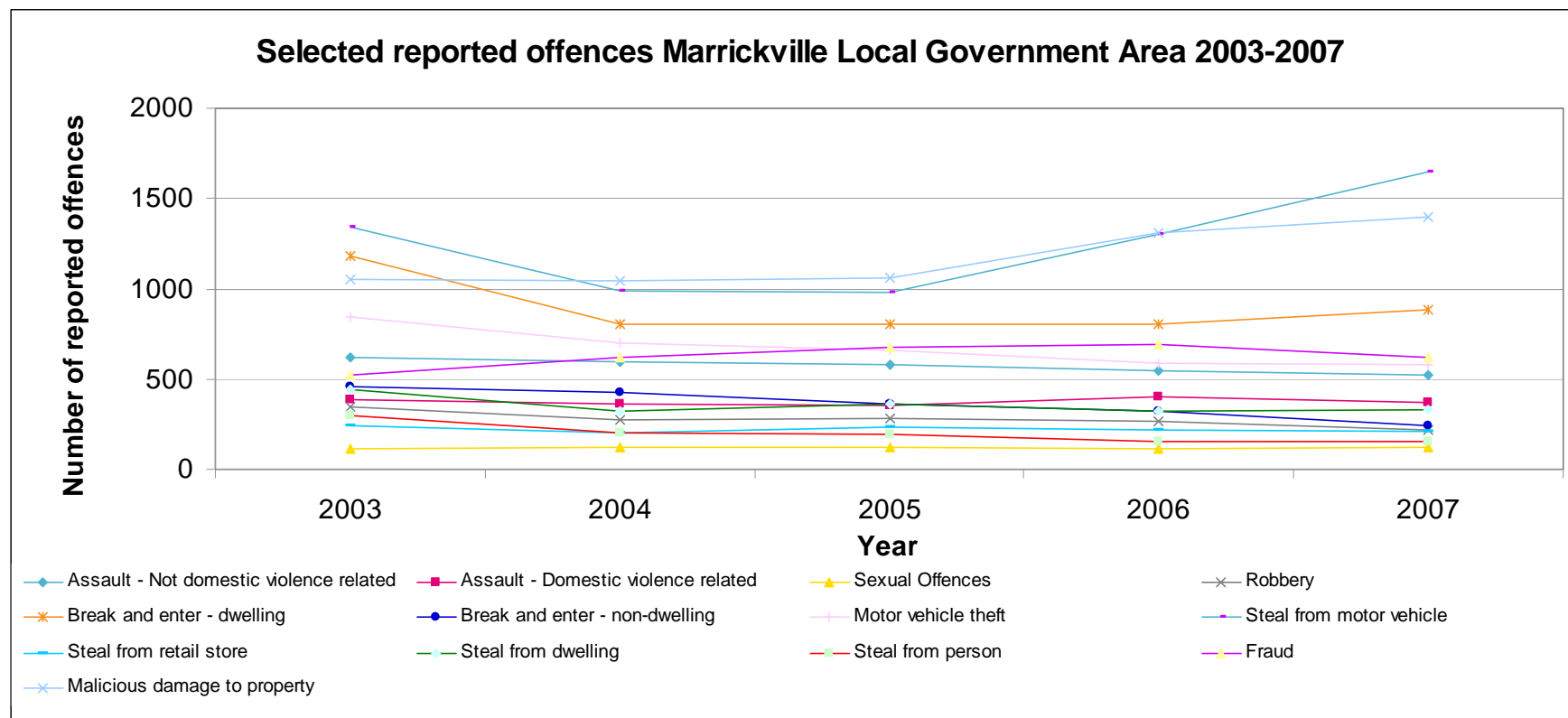
5.2 Crime Hotspots in Tempe

The NSW Bureau of Crime Statistics and Research published a Local Government Area Crime Report Series for Marrickville in 2006. Part of this crime report uses kernel density maps to illustrate areas of high and low crime concentration within the LGA. The data in this report were extracted from the NSW Police Force's Computerised Operational Policing System (COPS) which is a live database.

Based on the density maps, Tempe experienced a medium-high proportion of criminal activity for the following offences:

- *Steal from motor vehicle (high)* – most commonly committed Sunday to Thursday, 12 - 6pm
- *Robbery (med-high)* –most commonly committed Saturdays 12 – 6am
- *Break and enter (med)* – occurred most often weekdays 6am – 12pm
- *Motor vehicle theft (med)* – most commonly committed Fridays 12 - 6pm.

Figure 1 – Selected reported offences Marrickville Local Government Area 2003-2007



6 Consultation

The following parties were consulted as part of this CPTED assessment. It should be noted that concerns raised have been assessed and mitigation measures to address these concerns, where considered necessary or appropriate, are included in Section 8.

6.1 Marrickville Council

Urbis met with staff from Marrickville Council's community development team on 23rd June 2008. The Council Officers were briefed on Valad Property Groups intention to develop an IKEA furniture store and national headquarters at the former Tempe Tip site and were shown the most recent set of plans. Questions or comments on the plans were invited, and they were asked specifically about community safety implications and broader social and community impacts of such a development.

The following views were raised during the discussion, in relation to community safety:

- There are no significant crime trends in the Tempe area
- Traffic management and pedestrian safety should be emphasised, as the Princes Highway has been the site of a number of pedestrian fatalities
- There were several armed robberies in Tempe in 2007 along the Princes Highway
- The site should enable good physical access for pedestrians and cyclists including cycle pathways
- Wherever possible Safer by Design principles should be adhered to in design, construction and site management phases.

6.2 Newtown Local Area Command

Urbis met with Sergeant Hull-Moody and Intelligence Sergeant Luke Ismay from the Newtown Local Area Command on 24th June 2008, to brief them on the proposed IKEA development and to receive their views on community safety and crime considerations/implications of the site and the development.

In regard to crime and safety in Tempe, Sergeant Hull-Moody and Sergeant Ismay noted the following:

- Tempe has a lower incidence of reported crime than 5 years ago
- Tempe has a lower incidence of reported crime compared to other suburbs within the Newtown Local Area Command
- Main offences were consistent with those in the Local Government Area Crime Report for Marrickville 2006 and included steal from motor vehicle, robbery, break and enter and motor vehicle theft
- Juvenile offenders were the main offenders of petty crime in Tempe and often resided in Tempe itself
- The area between the Princess Highway and the St Peters to Sydenham railway corridor is a lower socio-economic zone with a high incidence of graffiti (noted as being a common offence along major arterial roads in the LAC)
- There are no pressing concerns with regards to criminal activity in the industrial zone, only that commercial break and enter is the most common type of crime occurring given the lack of thoroughfare and general social isolation of the industrial zone
- Organised armed robberies occur from time to time and target retail and food outlets defined as 'soft targets' including convenience stores – such as 7-Elevens, McDonald's etc.

Sergeants Hull-Moody and Ismay were shown the plans of the proposed IKEA development site for review. In relation to the designs, the key areas of concern specific to safety, site accessibility, and potential for criminal activity included:

- The site is located adjacent to the container storage yards and could be susceptible to break and enter due to lack of visibility from the Princes Highway and shadowing as a result of high fencing and the height of containers themselves in the container storage yard
- The rear access road to the loading dock and the carpark may become a gathering point for undesired persons after hours
- Stealing from motor vehicles and motor vehicle theft in the car park could be a major concern due to the size of the parking site and the lack of permeability from the Princes Highway (especially at the western end of the car park)
- There may be a higher incidence of secondary crime occurring on-site (ie carpark) where offenders park unobserved and carry-out criminal activities such as bag snatching
- Graffiti onsite (including rooftop) and around the development due to the isolation of the area
- There is inadequate street lighting along the Princes Highway from the Petrol Station at the Bellevue Street intersection to the Harp Hotel
- Traffic and pedestrian safety on entry to the car park from the Princes Highway would need to be addressed by the Roads and Traffic Authority (RTA) given the busy nature of the road, particularly during peak hour.

Sergeants Hull-Moody and Ismay proposed the following mitigation measures to reduce the fear and risk of crime in relation to the proposed development:

- Signage has to be very clear in relation to warning people not to leave their valuables in their cars
- There should be adequate surveillance at the delivery/loading dock including security, good lighting, proper cash management
- Delivery times and schedules should be varied to deter the possibility of organised theft
- The site should be adequately fenced and closed after hours especially the area between the car park and rear access road
- Good lighting should be installed around the site and in the covered car park
- An information/security point should be established at the entrance to the car park to monitor car and customer movements to and from the site, and
- CCTV cameras should be installed in the car park and roving patrols to monitor parking area.

6.3 Local community

Community consultation was undertaken by Urbis between October and December 2007. The purpose of the process was to test community and stakeholder responses to Valad Property Group's proposal to redevelop the former Tempe Tip to host an IKEA furniture store and administration building.

Overall, participants in the consultation were strongly supportive of Valad's plans. There was a sense that IKEA would contribute to the revitalisation of the area and provide good employment opportunities to local people. IKEA's corporate reputation is strong, and there are expectations that they will be a 'good neighbour'.

The following issues regarding the proposal to establish an IKEA store and administration building were raised by participants from the consultations.

- Traffic impacts – congestion on the Princes Highway is already considered to be heavy in peak hours, so the need for traffic management around the site was raised frequently
- Parking is already in high demand so it is important to provide adequate spaces for on-site activities
- Community meeting places – there is a perceived lack in vicinity and the proposal is regarded as an opportunity for addressing that
- Environmental Sustainable Development – there is strong local support for sustainable design and construction
- Aesthetic impact: participants are keen to find ways to improve the visual and pedestrian amenity of the site and area, including cafés, landscaping, open space and meeting places.

Furthermore, the following suggestions were made as a way of addressing the issues raised from the consultation.

- Street frontage that blends with the surrounds and employ landscaping to soften impact
- Management of traffic impacts on adjoining and local residents including egress and entry points and setbacks of buildings
- Provision of adequate parking
- Good physical access for pedestrians and cyclists should be enabled
- Continued opportunity for community input through all phases of the project
- IKEA pride in the local area demonstrated by supporting community events and activities
- Human resource strategies that encourage and facilitate employment of local residents, particularly young people
- Support by IKEA of grassroots community projects (like sponsoring a local sporting team, supporting community transport services, or funding a community development worker position)
- ESD principles be adhered to, in design, construction and site management phases.

For further information, please refer to the Urbis, December 2007, *Consultation Report*.

7 Design assessment

In this assessment, we considered areas that required specific attention to ensure maximum safety within the overall development. The combination of management of an area will determine the level of actual and perceived safety. Good design supports and accommodates good management practices.

The CPTED principles support:

- territorial reinforcement/ownership
- passive surveillance
- access control
- ownership and space management.

This assessment has been considered in relation to both standard CPTED principles and the *Controls and Objectives for Commercial Developments* which form part of Marrickville Council's Development Control Plan 38 – Community Safety document.

Overall, we regard the design of the proposed IKEA facility to comply with key CPTED principles.

Note: our assessment does not take into consideration the internal IKEA store layout due to standardised store design principles.

Note: the following comments are based on site plans as at 28 April 2008.

7.1 Site visit

In a site visit to the area on Monday 23 June at 5pm, it was observed that peak hour traffic was moving slowly between the two controlled intersections at Bellevue and Smith Streets. This could be an issue for vehicular access to site during peak periods. Pedestrian safety along the Princes Highway needs consideration as there are currently no controlled crossings directly in front of the proposed development. In addition, the location of bus stops opposite the site (i.e. Princes Highway/Foreman Street) will pose further concern for pedestrian safety in terms of accessing the site.

Other than the Petrol Station on the Princes Highway at the Bellevue Street intersection, there was little activity and minimal pedestrian thoroughfare around the site. The surroundings are industrial and the houses along Bellevue Street appeared abandoned.

The curved section (dip) of road on Bellevue Street, in front of the Salvation Army store, obstructs natural surveillance and lines of sight to the container storage yards and rear of the site. This could potentially create a physical place of entrapment or may attract illegal entry through the rear of the site, loitering or scenes of secondary crime.

7.2 Key issues for consideration

7.2.1 External

Safety of car park areas

There is a need to consider overall security in all car parking areas (open and enclosed) due to the size of the area. This may include regular patrols, controlled parking areas, installation of CCTV cameras and possibly emergency communications such as panic buttons. Of particular concern are the far eastern end of the open car park which has poor visual connection from the Princes Highway, and the staff and customer parking area located at the rear of the main IKEA building and adjacent to the container storage yards which has minimal visibility.

Access control and perimeter security should also be considered in the final designs. Other concerns noted during consultation with the Newtown Local Area Command was that there may be a higher incidence of secondary crime occurring on-site (i.e. car park) where offenders park unobserved and carry-out criminal activities such as bag snatching.

Access and pedestrian safety

There is concern for pedestrian safety from the Princes Highway to the site. Congestion on the Princes Highway is already considered to be heavy during peak hour, thus, emphasising the need for at least one controlled pedestrian crossings at the intersection on the Princes Highway to prevent unauthorized crossings. There should also be a clear separation of pedestrian and vehicular activities with clear sight lines and signage directing people to the entrance from the street front and from within the car park.

However, as the Traffic Report (undertaken by Transport and Traffic Planning Associates) indicates, the vehicle access provision will comprise:

- a new traffic signal controlled access intersection on the Princes Highway frontage with separate right and left-turn bays (for car access)
- connection to Bellevue Street for service vehicles and cars
- emergency vehicles access on the Princes Highway (adjacent to the Pretty Girl site) and on Smith Street.

This is therefore likely to alleviate current pedestrian safety concerns and vehicular access concerns on entry to the site from the Princes Highway.

Newtown Local Area Command noted that there is poor lighting along the Princes Highway perimeter of the proposed site. We would recommend appropriate lighting be installed at the frontage of the site to improve natural surveillance.

Loading dock access and security

The Bellevue Street entry point and back access road to the delivery/loading dock area is potentially a 'high risk' area due to its social isolation, limited natural surveillance and proximity to the container storage yards in the adjoining property. Entry to the delivery/loading dock will require some form of active surveillance such as CCTV cameras, roving patrols or after-hour security to avoid unauthorised access. Newtown Local Area Command also pinpointed the area as a potential gathering place for undesired persons after hours.

Lighting and fencing

Good lighting deters crime and produces a more secure atmosphere. Lighting will be a key detractor of criminal activity on the site. Adequate lighting will improve natural surveillance, control access around the site by directing and controlling the attention of people to a particular area, and can help to display important information to the public. Areas of isolation such as the carpark at the rear of the IKEA main store, loading dock area, eastern end of the carpark and frontage of the Ateco building as well as pedestrian pathways, etc, should be well lit to enable face recognition.

There should be secure fencing of sufficient height around the site, particularly along the back of the site between the carpark, Bellevue Street and container storage yards; and the loading dock and adjacent factory/warehouse, to prevent unauthorised access.

Open space and landscaping

While landscaping and open-space planning are yet to be finalised, the following principles should be considered in the final designs:

- landscaping around the premises should not screen visibility and impede sightlines to main access points

- paths should not lead people into areas that may be dead ends, areas of entrapment or which may cause directional confusion
- cycle ways should provide a clear line of site along the length of the path and bicycle parking should be provided in an area that enables passive surveillance.

We understand there is intent for the retention of the Ateco heritage building at the front of the site for use as the national IKEA head office. Further, the remaining space within the building may potentially be used as a bulk goods showroom, which would therefore require a safe, well-lit and accessible entrance at the interface between the two buildings.

7.2.2 Internal

Overall, the proposed internal layout is congruent with CPTED principles, maximising the large amount of natural surveillance that is provided by both IKEA employees and customers.

Upper ground floor general arrangement

The CPTED assessment of the upper ground floor notes that:

- the proposed location of the cafe/bistro provides natural surveillance of the proposed staff area
- the proposed location of the staff area is removed from customer thoroughfares and therefore reduces the likelihood of trespassing.

Ground Floor General Arrangement

The CPTED assessment of the ground floor notes that:

- the proposed location of the Food Market will maximise natural surveillance of the checkout area and the adjacent public toilets
- the proposed location of Smaland will maximize natural surveillance of main entry/exit points
- the proposed office and amenities adjacent to the loading dock (refer to DA-102, gridline 13A and 16A) are isolated and may present opportunities for criminal behaviour. This particularly applies to the single amenity with direct access from the loading dock (refer to DA-102, gridline 13A).

Lower Ground Floor General Arrangement

The CPTED assessment of the lower ground floor notes that:

- The proposed Home Delivery loading dock, elevator and general area is isolated and may present opportunities for opportunistic crimes (refer to DA-101, gridline M0).
- While the proposed location of the garbage area is isolated and may present opportunities for criminal behaviour, this is reduced by natural surveillance provided due to its proximity to customer car parking and elevators (refer to DA-101, gridline N11).

IKEA Office Building

Identified CPTED issues in the internal layout of the IKEA Office Building relate to the ground, lower ground and basement floors. The review has noted that:

- whilst access to the ground floor foyer and lift will require users to traverse multiple doors, opportunities for concealment, loitering and criminal activity are greatly minimised by the proposed use of glass walls.
- access to the lower ground floor existing bulky goods area and passenger lift requires users to traverse multiple doors. The design may present opportunities for concealment, loitering and criminal activity should access to the building not be restricted at the initial entry point at all times.

- the current location of the light industrial and bulky goods areas (basement floor) may present opportunities for criminal behaviour. The use of the adjacent passenger lift will provide some natural surveillance (DA-111, gridline H4).

8 Mitigation and enhancement

The following are recommended measures to address crime and safety concerns identified in this report.

Onsite security

- Installation of CCTV cameras throughout all car parking areas (in particular, rear and delivery/loading dock area where permeability is obscured) and if possible, regular security patrols through these areas.
- External lighting (including sensor lights after hours) to a standard that enables facial recognition in all car parking areas, the loading dock, and key pedestrian access points. Monitor lighting standards in external areas adjacent to site.
- Use of transparent, secure fencing of a sufficient height; landscaping to provide border definition of the site; and closure of the site after hours to deter unauthorised entry.
- Implementation of after hours management measures (i.e. CCTV, roving security patrols) for the Bellevue Street entry point to the delivery/loading dock, to address potential loitering or malicious damage to property.
- Consideration of varying delivery times and schedules to the loading dock (along the Bellevue Street access road) to deter the possibility of organised theft.
- Establishing an information/security point at the entrance to the car park to monitor car and customer movements to and from the site.
- Maintenance of clear and prominent signage, changed at regular intervals, warning people not to leave their valuables in their cars.
- Use of robust materials in finishes throughout the store to reduce likelihood and cost of malicious damage such as graffiti.

Traffic management and pedestrian safety

- Use of clear signage in relation to pedestrian access and path-finding from the street front and car parking areas.
- Use of traffic control personnel at the main entry to marshal vehicles and pedestrians during peak times or events, e.g. store opening.
- Ensuring that external doors are flush with walls.
- Ensuring that lighting is improved along the frontage of the site (Princes Highway).

Internal safety and security

- The use of security access cards should be adopted for all staff. This is recommended to restrict movement of non-authorised persons beyond the general public area. This is particularly important in relation to the lower ground floor access to the IKEA Office Building.
- Provide active surveillance such as CCTV and security patrols. This is particularly important in the loading dock, home delivery dock, waste storage and basement areas.
- Lighting must comply with AS1158/1680 and there should be sufficient light distribution and light levels to ensure that users of the facilities are safe.
- IKEA employees should follow their established cash management procedures.
- Doors leading from public to staff only areas such as those on the ground floor loading dock and upper ground floor should be locked with access only for authorised people. These should be identified by signage, change of colour or texture to limit confusion.

