CPTED ASSESSMENT

LINDFIELD LEARNING VILLAGE

URBIS

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1. EXECUTIVE SUMMARY

Urbis was commissioned by DesignInc Sydney Pty, on behalf of the NSW Department of Education (DoE), to undertake a Crime Prevention Through Environmental Prevention (CPTED) assessment for the development of the *Lindfield Learning Village.*

A CPTED Assessment is an independent specialist study undertaken to identify and analyse potential improvements to design which may help to reduce crime and anti-social behaviour, as per NSW Government best practice guidelines. The four key principles to minimise the opportunity for crime are outlined below.

Table 1 – CPTED principles

	Principle	Definition
1	Natural Surveillance	Natural surveillance is a by-product of well-planned, well-designed and well-used space. It involves maximising opportunities for passers-by and users to observe what happens in an area (the 'safety in numbers' concept). Higher risk locations can also benefit from organised surveillance, which involves the introduction of formal measures such as on-site security guards or CCTV.
2	Access control	Control of who enters an area so that unauthorised people are excluded, for instance, via physical barriers such as fences, grills etc.
3	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. Territoriality relates to the way in which a community has ownership over a space.
4	Space management	Ensures that space is appropriately utilised and cared for. Space management strategies include: activity coordination (i.e. having a specific plan for the way different types of activities are carried out in space), site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out lighting and the removal or refurbishment of decayed physical elements.

1.1. THE PROPOSAL

The proposal involves the redevelopment of the former UTS campus for the purposes of a new school to be known as the *Lindfield Learning Village.* The proposal will deliver a new educational model within a unique campus setting and will cater for up to 2,100 students from Kindergarten through to Year 12.

1.2. CRIME PROFILE

BOSCAR data demonstrates that the proposal is located in an area with relatively low levels of crime compared to NSW. Despite the lower crime levels, the application of *Safer by Design* guidelines will minimise the conditions that encourage crime.

1.3. CPTED ASSESSMENT AND RECOMMENDATIONS

Educational establishments may be targets for crime and vandalism because of their scale, variety of uses and landmark status. However, many of the crimes that affect schools are opportunistic and incidences of their occurrence can be minimised through the adoption of appropriate CPTED principles.

The site is currently subject to vandalism and graffiti due to it being unoccupied and unused for a period of time. The development of the Lindfield Learning Village will have a positive impact in regards to the activation of the site and and passive surveillance measures.

CPTED recommendations for the site include maximising passive surveillance, access control, territorial reinforcement and space management in the following proposal areas:

- External layout

- Entry and exit points

- Rooftops and terraces

- Internal layout

- Streets and sidewalks

- Carparking

- Maintenance and management

- Construction.

1.4. CONCLUSION

The proposal has considered CPTED principles through the application of the NSW Police *Safer by Design guidelines.* It is considered that these measures and the recommendations included in this report are adequate to minimise any crime risks related to the operation of the site.

2. INTRODUCTION

Urbis was commissioned by DesignInc Sydney Pty, on behalf of the NSW Department of Education (DoE), to undertake a Crime Prevention Through Environmental Prevention (CPTED) assessment for the development of the *Lindfield Learning Village.*

A CPTED Assessment is an independent specialist study undertaken to identify and analyse potential improvements to design which may help to reduce crime and anti-social behaviour, as per NSW Government best practice guidelines.

2.1. THE SITE AND LOCAL CONTEXT

The subject site is located at 100 Eton Road, Lindfield, within the Ku-ring-gai Local Government Area (LGA). It has an area of approximately 3.6 ha.

The site is surrounded by native bushland associated with Lane Cove National Park to the south, east and west. To the north-west and north-east is Edgelea, a medium density residential development recently constructed by the Department of Defence. Land further north includes the Charles Bean sports field, the Screen Australia complex, and an established low-density residential area.

Figure 1 – Site context

Source: Urbis GIS

Site visit photos are included in **Appendix A.**

2.2. THE PROPOSAL

The proposal involves the redevelopment of the former UTS campus for the purposes of a new school to be known as the *Lindfield Learning Village.* The proposal will deliver a new educational model within a unique campus setting and cater for up to 2,100 students from Kindergarten through to Year 12.

Kindergarten to Year 12 Home Bases

- It is planned to group students into six home bases, each catering for approximately 350 students of all ages from Kindergarten to Year 12. The home base model represents the educational concept of 'schools within a school'. The educational philosophy is based on the principles of 'Future Focussed Learning' and academic progression through the school is by stage of scholastic achievement, not by the age of the student.

- To manage the impact on the surrounding road network by reducing the peak traffic generated, the commencement times of the home bases will be staggered as follows:

  o two home bases commencing at 7:30am and concluding at 2.00pm;

  o two home bases commencing at 8:30am and concluding at 3.00pm; and

  o two home bases commencing at 9:00am and concluding at 3.30pm.

- Approximately 200 staff will be employed, including childcare and Aurora College staff.

Other Facilities

The proposed school will also be supported by the following facilities:

- Child care centre accommodating approximately 90 children and 12 staff. The child care centre will operate from 6.30am to 6.30pm;

- Aurora College (Distance Education) comprising 12 staff.

After Hour Facilities

It is anticipated that the following facilities will also be made available after hours for community use:

- Existing Greenhalgh Auditorium, 910 seat capacity;

- Existing Lecture Theatre 1, 206 seat capacity; and

- Existing Lecture Theatre 2, 104 seat capacity.

Figure 2 – Concept Sketch
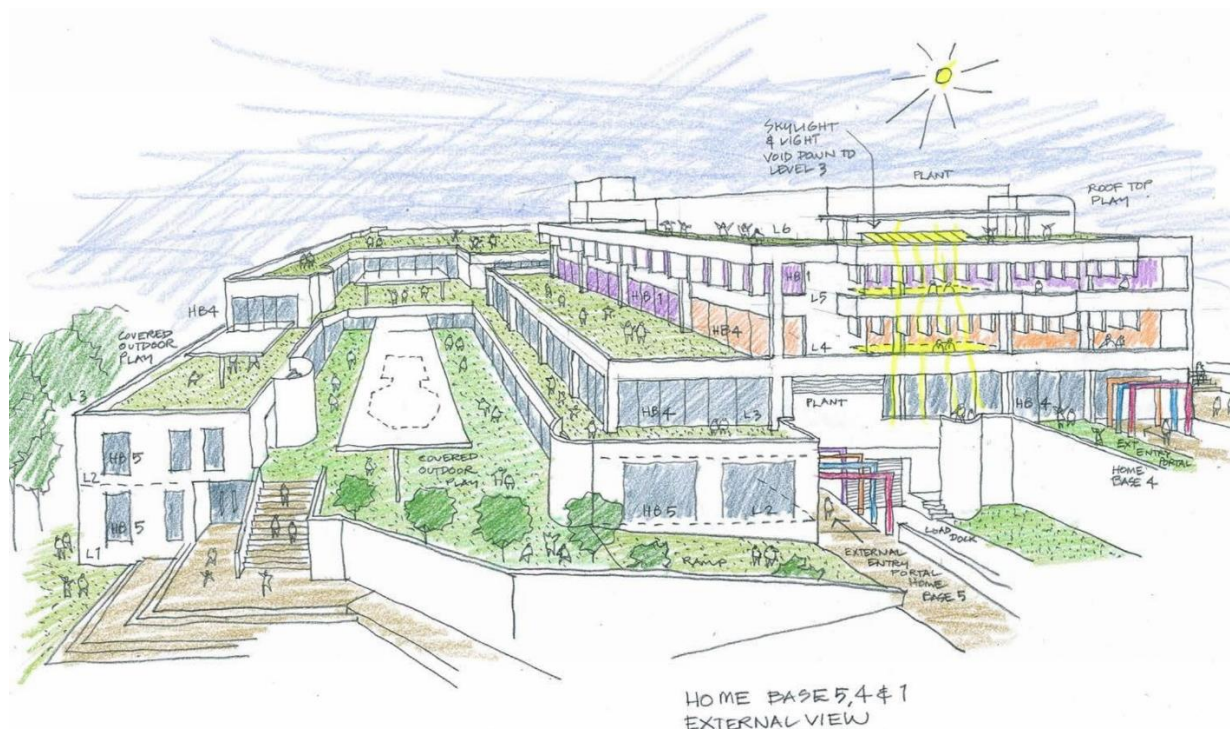
Source: DesignInc Pty

3. METHODOLOGY

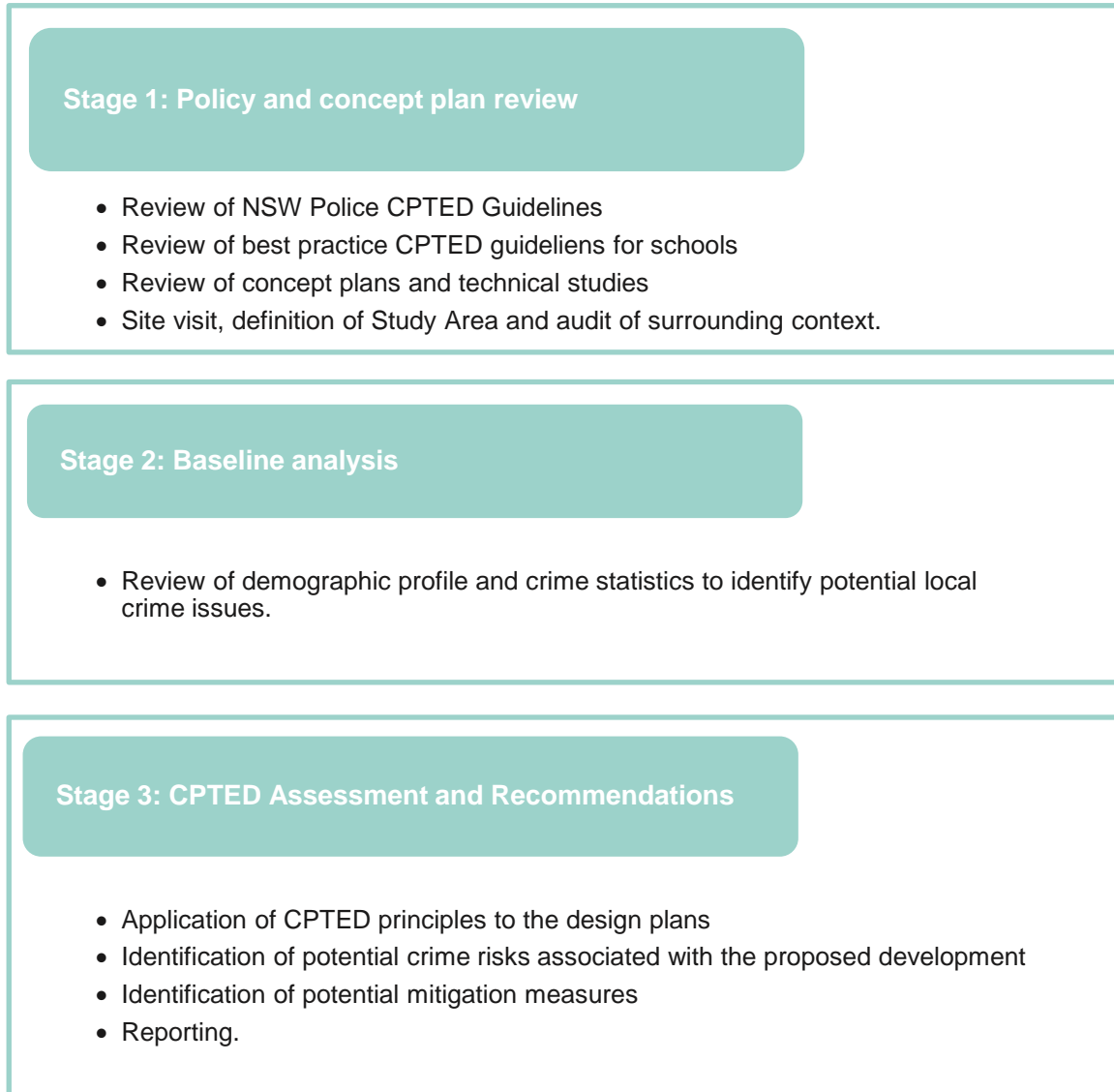The following tasks have been undertaken as part of this CPTED assessment.

Figure 3 – CPTED methodology

Stage 1: Policy and concept plan review

- Review of NSW Police CPTED Guidelines
- Review of best practice CPTED guideliens for schools
- Review of concept plans and technical studies
- Site visit, definition of Study Area and audit of surrounding context.

Stage 2: Baseline analysis

- Review of demographic profile and crime statistics to identify potential local crime issues.

Stage 3: CPTED Assessment and Recommendations

- Application of CPTED principles to the design plans
- Identification of potential crime risks associated with the proposed development
- Identification of potential mitigation measures
- Reporting.

4. POLICY AND LITERATURE REVIEW

The following documents were reviewed to inform this assessment:

- NSW State Priorities
- Crime prevention and assessment of development applications (NSW Department of Planning)
- NSW Police Safer by Design Guidelines
- National and international best practice CPTED guidelines for schools (refer to Section 8.1).

4.1. NSW STATE PRIORITIES

The NSW Government, in its State Priorities *NSW: Making It Happen,* identifies the priority to create safer communities in NSW. Goals include:

- Reducing violent crime – LGAs to have stable or falling violent crime rates by 2019
- Reduce adult re-offending by 5% by 2019
- Reduce road fatalities by at least 30% from 2011 levels by 2012.

4.2. NSW POLICE SAFER BY DESIGN GUIDELINES

The *Safer by Design* evaluation process is used by NSW Police to identify and quantify crime risks. The evaluation measures statistical probability of crime, consequence, 'hotspots' analysis and situational opportunity.

The four key principles to minimise the opportunity for crime are outlined below.

Table 2 – CPTED principles

	Principle	Definition
1	Natural Surveillance	Natural surveillance is a by-product of well-planned, well-designed and well-used space. It involves maximising opportunities for passers-by and users to observe what happens in an area (the 'safety in numbers' concept). Higher risk locations can also benefit from organised surveillance, which involves the introduction of formal measures such as on-site security guards or CCTV.
2	Access control	Control of who enters an area so that unauthorised people are excluded, for instance, via physical barriers such as fences, grills etc.
3	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. Territoriality relates to the way in which a community has ownership over a space.
4	Space management	Ensures that space is appropriately utilised and cared for. Space management strategies include: activity coordination (i.e. having a specific plan for the way different types of activities are carried out in space), site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out lighting and the removal or refurbishment of decayed physical elements.

4.3. CRIME PREVENTION AND ASSESSMENT OF DEVELOPMENT APPLICATIONS

The *Crime prevention and assessment of development applications guidelines* seek to influence building design assessed under the NSW Environmental Planning and Assessment Act (EPAA) 1979.

The EPAA requires consent authorities to ensure that developments provide safety and security to users and the community 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.

4.4. BEST PRACTICE CPTED GUIDELINES FOR SCHOOLS

Educational establishments may be targets for crime and vandalism because of their scale, variety of uses and landmark status. Specific design elements which may affect crime and vandalism in schools include:

- Schools often have multiple entry points

- They often have up to date (valuable) equipment

- They frequently back onto houses

- They have low levels of activity on weekends, school holidays and public holidays and after-hours. [1]

Many of the crimes that affect schools are opportunistic and incidences can be minimised through the adoption of appropriate CPTED principles.

The application of *Safer by Design* guidelines can reduce the potential for crime and minimise the conditions that encourage crime. Key questions used to assess CPTED considerations for schools include:

- Does the school's overall character and atmosphere inspire trust and respect among students and staff?

- Does the school have the ability to stop unwelcome visitors from entering the premises?

- Can the school be efficiently evacuated in case of an emergency?

- Does the school design promote natural surveillance, without staff members having to step into the hallway, through a set of double doors or around a corner?

- Are there design and management practices in place to prevent and minimise the incidence of issues such as graffiti, vandalism and bullying?

- Can students travel to and from school without encountering risks or obstacles?

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[1] *National Clearinghouse for Educational Facilities (2006) Safe School Facilities Checklist.*

5.   DEMOGRAPHIC PROFILE

An area of 1 km in radius (the Study Area) was defined and its demographic profile compared against that of Ku-ring-gai LGA. This demographic analysis is based on 2011 Census data from the Australian Bureau of Statistics (ABS).

A full demographic summary table is provided at **Appendix B**.

5.1.   KEY FINDINGS

According to the 2011 Census:

- There are approximately 7,941 people living within the Study Area, which equates to 7% of the population of Ku-ring-gai LGA

- The population density of the Study Area is 1,249 people per sq km, which is roughly the same as the density of Ku-ring-gai LGA (1,279 people per sq km)

- The average age of the Study Area is 38 years, which is lower than the average age of Ku-ring-gai LGA (38 years)

- One third (34%) of the population of the Study Area were born overseas, which is slightly lower than the proportion of overseas-born residents of Ku-ring-gai LGA (37%)

- Three quarters (75%) of the population of the Study Area speak English only at home, which is slightly lower than the percentage for Ku-ring-gai LGA (78%)

- The average household income in the Study Area is $137,660, which is slightly higher than Ku-ring-gai LGA ($135,055)

- The percentage of household owners in the Study Area is 45%, which is roughly the same as that for Ku-ring-gai LGA (46%)

- The percentage of households in rental stress in the Study Area is 0.59% which is lower than the percentage for Ku-ring-gai LGA (1.85%)

- The dominant household type in the Study Area is family households (81%), which is also the dominant household type in Ku-ring-gai LGA (82%)

- The dominant family type in the Study Area is couples with children under 15 (39%), which is also the dominant family type for Ku-ring-gai LGA (36%)

- The percentage of unemployment in the Study Area (4.03%) is slightly lower than the percentage of unemployment in Ku-ring-gai LGA (4.48%)

- Four out of ten people in the Study Area (46%) have completed a bachelor degree or higher, which is slightly higher than that for Ku-ring-gai LGA (43%)

- The proportion of people who completed Year 12 or equivalent in the Study Area (84%) is slightly higher than that for Ku-ring-gai LGA (82%)

- The proportion of separate houses in the Study Area (86%) is higher than that for Ku-ring-gai LGA (79%).

5.2. SEIFA INDEX

The Socio-Economic Indexes for Areas (SEIFA) has been developed by the Australian Bureau of Statistics (ABS) to provide an overview of social and economic wellbeing and welfare of communities across a range of spatial scales.

Four SEIFA indices have been developed, as follows:

- Index of Relative Socio-economic Disadvantage: focuses primarily on disadvantage, and is derived from Census variables like low income, low educational attainment, unemployment, and dwellings without motor vehicles

- Index of Relative Socio-economic Advantage and Disadvantage: is a continuum of advantage (high values) to disadvantage (low values), and is derived from Census variables related to both advantage and disadvantage

- Index of Economic Resources: focuses on financial aspects of advantage and disadvantage, using Census variables relating to residents' incomes, housing expenditure and assets

- Index of Education and Occupation: includes Census variables relating to the educational attainment, employment and vocational skills.

Scores: A lower score indicates that an area is relatively disadvantaged compared to an area with a higher score. The area with the lowest score is given a rank of 1, the area with the second lowest score is given a rank of 2 and so on, up to the area with the highest score is given the highest rank.

Table 3 – SEIFA Profile

Area	Advantage and disadvantage		Disadvantage		Economic resources		Education and occupation	
	Score	Decile	Score	Decile	Score	Decile	Score	Decile
Ku-ring-gai LGA	153	10	153	10	152	10	150	10
Lindfield (suburb)	2483	10	2467	10	2213	9	2501	10

Source: SEIFA, 2011

SEIFA scores indicate that Ku-ring-gai LGA and the suburb of Lindfield are within the 10% most advantaged areas in NSW.

6. CRIME PROFILE

Crime data from the NSW Bureau of Crime Statistics and Research (BOCSAR) was analysed to identify the crime profile of the Study Area. This offers a baseline for the assessment.

6.1. TYPES OF CRIME

Table 4 outlines major offences that took place in Ku-ring-gai LGA between January and December 2015. The data presented is based on crimes with the highest count rate (ratio of crimes per 100,000 people).

Table 4 – Crime rates per 100,000 people.

Type of crime	(Rate per 100,00 population)	
	Ku-ring-gai LGA	NSW
Drug offences possession and/or use of cannabis	75.2	360.0
Fraud	354.6	680.2
Malicious damage to property	312.5	849.7
Steal from motor vehicle	157.1	531.2
Harassment, threatening behaviour and private nuisance	62.0	401.4
Assault – domestic violence related	60.3	385.7
Assault - non-domestic violence related	59.5	407.8
Break and enter dwelling	286.8	419.9
Break and enter non-dwelling	57.9	158.0
Steal from retail store	33.1	292.0
Motor vehicle theft	36.4	187.5
Steal from dwelling	140.5	284.8
Receiving or handling stolen goods	7.4	106.2

Source: BOCSAR, 2016

6.2. CRIME TRENDS

Table 5 below presents the 5 year trends (2011-2015) in the incident rates for key crime types in the Ku-ring-gai LGA.

Table 5 – Five-year crime trends

Crime	60-month trend (2011-2015)
Drug offences possession and/or use of cannabis	Stable
Fraud	6.9%
Malicious damage to property	-7.3%
Steal from motor vehicle	Stable

Crime	60-month trend (2011-2015)
Harassment, threatening behaviour and private nuisance	Stable
Assault – domestic violence related	Stable
Assault - non-domestic violence related	-12.7%
Break and enter dwelling	-8.9%
Break and enter non-dwelling	-9.2%
Steal from retail store	Stable
Motor vehicle theft	Stable
Steal from dwelling	Stable
Receiving or handling stolen goods	No change

Source: BOCSAR, 2014

6.3. CRIME HOT SPOTS

BOSCAR publishes 'hotspot' maps to illustrate areas of high crime density relatively to crime concentrations across NSW. Urbis has analysed crime 'hotspot' maps for the suburb of Lindfield in relation to the subject site. The subject site is not within a crime hotspot. It is within 1.5km to hotspots for the following crimes:

- Break in and enter dwelling
- Malicious damage to property
- Motor vehicle theft
- Steal from dwelling
- Break and enter non-dwelling.

The maps in **Appendix C** show locations where these crimes are particularly prevalent in relation to the subject site.

6.4. IMPLICATIONS FOR THIS ASSESSMENT

BOSCAR data demonstrates that the proposal is located in an area with relatively low levels of crime compared to NSW. Despite the lower crime levels, the application of *Safer by Design* guidelines will minimise the conditions that encourage crime.

7.   CPTED ASSESSMENT AND RECOMMENDATIONS

The following section assesses the architectural plans for the proposed redevelopment. It is informed by best-practice CPTED principles for schools.

7.1.   CPTED ASSESSMENT

The following are considered CPTED priority areas for this development:

- External layout
- Entry and exit points
- Rooftops and terraces
- Internal layout

- Streets and sidewalks
- Carparking
- Maintenance and management
- Construction.

7.1.1. External layout

About the development

The site is an example of Brutalist style of architecture, characterised by the use of robust materials including concrete and brickwork. Pre-finished coloured panels will be applied to the exterior of the building in order to make the facades more attractive to the younger students.

The existing building is surrounded by open space with grassed areas on a series of plateaux, sandstone outcrops, ridges and extensive Australian native bushland. These open spaces will be used by the Lindfield Learning Village students for outdoor play and provide the building with a natural landscaped setting. A 2.1m high security fence will be erected around the perimeter of the site.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- Solid and blank walls generally attract graffiti and vandalism. The existing heritage building has a large number of blank concrete and brick walls, which are part of the heritage character of the building. In order to minimise the risk of graffiti, whilst maintaining the heritage character of the site, it is recommended that:

    - A rapid removal of graffiti strategy is created for the school

    - Education about the heritage significance of the site is provided to students

    - New areas include low maintenance and graffiti-resistant materials, wherever possible and in consideration of heritage requirements.

- The existing building is compact and internally broken up into elements that define the various functions of the building. A compact building can contribute to access control, as there is only one building to control, as opposed to many sprawled ones. In order to maximise this opportunity, it is recommended that:

    - External areas of the building are well lit, with sensor installed in key areas

    - Passive and informal surveillance is maximised from the upper levels of the building (rooftop, balconies and windows)

    - Entrance and exit points are monitored by staff and/or CCTV, and are locked after-hours, as appropriate.

- Break-resistant materials should be considered for windows and access points where appropriate (e.g. plastic instead of glass, break resistant film on windows, shutters and curtains)

- A broad open space of native Australian bushland separates the building from the adjacent apartment block to the North. This interface is important to ensure privacy for residents. However, it is important to ensure that there are no opportunities for concealment are provided by the surrounding bushland. The following should be considered:

  - Windows, opening and exit points at ground level overlooking the school's open spaces will increase visual exposure

  - Landscaping and fences can contribute to directing students and visitors to the appropriate areas where supervision is available, while maximising territorial control.

- Best practice CPTED for schools indicates that sensor lights are more effective than permanent lighting for external areas. The 'surprise-effect' of sensor lights discourages loitering and congregating. Sensor lights thus recommended for external areas, assuming that they do not cause discomfort to neighbouring residential areas, pedestrians and drivers

- Ensure that landscaping and lighting interact to reduce opportunities for concealment and maintain opportunities for passive surveillance, whilst ensuring that new lighting fixtures are sturdy and vandal-proof

- Active surveillance and access control measures for the site could include alarms, after-hours security staff and locks

- Consider the use of CCTV cameras for key entry and exit points and external areas of the building, as appropriate. It is recommended that consultation with NSW Police and key Department of Education staff is undertaken prior to the implementation of a CCTV system for the school.

7.1.2. Entry and exit points

About the development

The existing building includes multiple access points at levels 1-5. Some of these points connect the building to outdoor play areas. Others connect the building to car park areas and surrounding roads.

Prefinished coloured panels will be used to define home bases and highlight points of entry. Parents Meeting Areas and Interview rooms will be located at all entry portals to home bases. School Administration will be located adjacent to the Main Entrance. Teacher Spaces will have a clear line of sight to the entry portals, encouraging passive surveillance.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- Ensure that all entry/exit points are aesthetic, inviting and accessible. Signs should be installed to direct visitors to report at reception before accessing the building

- A welcome sign should be included at the entrance to the site to demarcate where the school premises start

- The Main Entrance on Level 5 should be the principal sign-in entrance for visitors to the school. Staff on duty should be in a position to conduct natural surveillance of this main entrance at all

times, with unrestricted views in all directions. As such, it is important to remove obstacles and expand visibility through the use of windows and open spaces in this area

- During school hours, access to the school by visitors should be restricted to main entry points, which will be monitored. Secondary entry points should generally be open only for morning drop off and afternoon pick up

- If visitors are able to enter the school grounds through secondary entry points, passive surveillance should be provided by locating key uses in proximity to these entry points. These uses include teach spaces, the canteen, staff offices, administration space and parents interview rooms

- Adequate lighting should be installed at all entry and entry points. Main entrances should be well-lit and visible at night-time. Sensor lights around secondary entry points and emergency exits are recommended

- School boundaries should be clearly demarcated and school areas fenced off

- Ensure that all entry and exit points are accessible and optimised for wheelchair access (as per Australian Standards)

- Consider re-configuring as many excess entry doors as possible so that they automatically lock when closed and only serve as emergency exits. The fewer the entry points, the less pressure the school is under to try to staff them

- Ensure all doors are built from resistant materials to prevent break-ins and vandalism

- Install access controls (electronic passes or keys) for entry and exit points. Electronic controls are not needed at every door but can be used selectively. Access levels vary depending on the needs of staff and their roles

- Access control measures should not restrict building evacuation. Every occupied space should have at least two means of egress (including emergency exits). If a threat enters at point A, students and staff should be able to evacuate through point B.

7.1.3. Rooftops and terraces

About the development

The flat rooftops of the existing building cascade down the site in response to the sloping topography. These rooftops will be used for outdoor play by the students. They will be landscaped to create safe play spaces using artificial grass and soft play materials.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- All roof top areas should include adequate screening (e.g. landscaping and fences) to prevent accidents and objects falling to the lower levels, whilst maximising passive surveillance and preserving the heritage character of the building exterior

- Signage should be placed to inform students of the risks of getting too close to the edge/climbing the rooftop/balcony fences. Information should be provided to students about the management of these areas and the reasons for the inclusion of restrictive measures for safety

- Playground equipment should be located as far away from rooftop areas/balcony fences as possible

- Play areas should avoid sharp edges and rough materials, in consideration of heritage requirements

- The use of playing balls should be restricted to the ground level and rooftop areas where screening is tall enough to prevent balls falling to lower levels

- The Plan of Management for the school should include risk minimisation methods for play-spaces, such as staff monitoring and surveillance roster, hours of operation of rooftop areas, and strategies to educate students on the appropriate use of these areas.

7.1.4. Internal layout

About the development

Many of the internal brick walls within the building will be demolished and replaced with glazed sliding walls that define learning spaces and create an interconnected and open plan arrangement. Storage built into walls will separate the learning spaces.

The Home Bases will be distributed throughout various parts of the building. Shared specialised learning spaces (e.g. library resource centre, science labs, wood and metal technology, visual areas, food and textiles and student counselling) will occupy refurbished facilities throughout the building.

Other key internal uses include a child care centre, administrative office, Aurora College, an auditorium and lecture theatre, dining areas, a gymnasium and toilet areas.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- The internal spaces of the school should provide passive surveillance to the external areas of the building. Blinds or curtains could be installed in rooms that require privacy at certain times of the day

- Teacher presence throughout the building is important to maximise passive surveillance and sense of ownership

- Rooms with restricted student access should have adequate signs and be locked when not in use. Similarly, emergency exits should be adequately labelled and students informed of their appropriate use

- Rooms with valuable equipment should be made physically secure. Locking of equipment when not in use is important to minimise the risk of it being taken out of the building, lost or stolen

- Ensuring that staff and students are able to keep their valuables secure is important in creating a safe space. If lockers are provided, it must be ensured that they are enough for all students and that their location does not obstruct or crowd corridors and exit points

- Stairs and hallways/corridors are high risk areas for bullying and accidents. Due to the nature of the existing building, it is not possible to remove or re-design these spaces. As such, it is important to minimise the impact of these areas through the application of the following principles:

    - Adequate lighting in all internal areas of the building, especially along corridors, sharp corners, stairwells and narrow entrances

    - Space management of the back of stairwells to minimise hiding spots. Consider using indoor landscaping or physical barriers/fences

- Staff presence and monitoring of internal corridors and stairs throughout the day, especially during recess periods

- Inform students of the risks of running through internal corridors and stairs and minimise the risk of having large numbers of students using the same stairs and corridors simultaneously

- Consider using materials that minimise the risks of slipping and falling on stairs and hallways.

- The School's Plan of Management should include procedures and strategies to manage internal access and evacuation, especially for activities that attract a large number of attendees (e.g. sporting events, concerts, performances)

- The Administrative office should be locked after-hours and there should be constant staff presence in this area during school hours

- Auditoriums and lecture theatres should be regularly monitored by staff and be locked after-hours

- The gymnasium should be periodically monitored by staff. The pedestrian bridge that connects it to the main building should include appropriate security barriers/screens

- The child care centre has its own entrance and exit point on level 5. This is considered good CPTED practice, as it contributes to the monitoring of people who access the child care centre, keeps the area quiet, and restricts access by students

- Toilets are an important CPTED area. They should be located in visible areas and their design should encourage respect and inclusion among students and staff. The proposed toilet design includes toilets grouped according to age groups and with enclosed cubicles with basins for privacy, and open washing areas that teachers can supervise. This will maximise natural surveillance

- Bins should be established throughout the floors in hallways and common spaces to ensure the cleanliness of the building.

7.1.5. Streets and Linkages

About the development

The main pedestrian entry to the site includes a landscaped circular driveway. Footpaths connect the site to Eton Road and Dustan Grove. School and public buses will continue to use the existing bus bay on Eton Road at the entrance to the site.

Students and staff will then walk approximately 200 metres to the school. It is expected that traffic wardens will be positioned at key crossing locations to ensure safety of students and staff. Traffic-calming devices will be installed near the school.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- Install adequate lighting throughout the site with a focus on pedestrian links, entry/exit points to the building and driveways, car parks

- Ensure that footpaths are well-maintained and accessible by wheelchairs and other forms of physical disability

- The shared use of the Charles Bean Oval and the location of residential areas in proximity to the site will ensure there are people on site for large periods of the day, providing greater natural surveillance of the school

- Appropriate public bins should be placed in high traffic pedestrian areas to ensure cleanliness of the school's surroundings

- Staff presence at the interface between the school and the bus stop on Eton Road during peak hour is important to ensure safety. Traffic wardens at key crossing locations and traffic-calming devices contribute to pedestrian safety

- Ensure clear demarcation of pedestrian walkways throughout the car park to avoid conflicts with vehicles, particular to manage the safety of children attending the childcare centre

- Install traffic control signage (e.g. give way and stop signs) where appropriate, taking into account the likely change of traffic patterns generated by the school and the need to avoid conflicts between vehicles and pedestrians both on the street and within the car park

- The Plan of Management for the school should ensure that strategies are in place to ensure the safety of students and pedestrians on nearby streets and footpaths.

7.1.6. Carparking

About the development

The site currently has 184 car parking spaces across the basement and at-grade parking locations. Due to the topographic, vegetation and heritage constraints associated with the site, additional parking is not proposed and therefore parking allocations are based on existing provisions.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- Install adequate lighting and CCTV throughout car park, including at all car park entry/exit points and stairwells

- Install wayfinding and safe parking signage throughout car park and at all car park entry/exit points

- Consider security monitoring of car park areas at night

- An accessible path of travel should be provided to the building from any accessible car parking spaces.

7.1.7. Maintenance and management

About the development

Developments that are well managed and maintained are less likely to attract criminal activity through establishing a sense of ownership and pride for those who live and work close by. Proper maintenance of the building and its features can assist in the prevention of crime.

The proposal includes a number of management measures, such as staggered class times, to help with hallway traffic and constant surveillance of hallways. The School's Facilities Team will monitor the building and spaces to ensure that they are kept clean, tidy and that maintenance occurs in a timely manner.

Recommendations

In finalising the design, it is important to consider the following recommendations:

- The School Plan of Management should include maintenance and repairing strategies, complaint management measures, emergency procedures, waste removal procedures, evacuation procedures, safety procedures for large events, access and monitoring measures (etc)

- The Childcare Management Plan should include specific safety and operational requirements for the childcare centre

- Procedures and strategies should be in place to manage the locking of doors and equipment

- Cash management strategies should be in place as required, especially for money raised from fundraising activities

- A student involvement program could be implemented to encourage students to contribute to the maintenance and sustainable use of school facilities (e.g student involvement in establishing projects around the school)

- It has been demonstrated that increased parental involvement with a school lessens the likelihood of vandalism, particularly amongst students whose parents participate in school-based activities. A School Watch program designed to encourage parents and people living near the school to report suspicious activities after normal school hours could be implemented

- Regular audits of the key system/electronic passes, should be conducted

- Safety and security induction for staff should be provided

- The school's curriculum and activities should inspire trust, respect and embrace diversity among students and staff.

7.1.8. Construction

About the development

The site will be redeveloped in one stage in accordance with the Preliminary Construction Management Plan. Demolition of certain elements of the existing building will be required to adapt the building to its future uses.

Recommendations

- Ensure appropriate lighting of construction areas

- Ensure vacant construction areas are adequately secured in line with Australian Standards

- Ensure equipment is adequately secured (e.g. with fencing or sheds) in line with Australian Standards, so that it cannot be used for criminal activities such as vandalism, assault, break and enter or as opportunities for concealment

- Put in place active security measures during construction (e.g. CCTV and security staff)

- Ensure that construction that takes place after the commencement of operation of the school minimises impacts and risks to students and staff.

- The Construction Management Plan should include strategies and procedures to further minimise risks during construction.

8. CONCLUSION

The proposal has considered CPTED principles through the application of the NSW Police *Safer by Design guidelines.* It is considered that these measures and the recommendations included in this report are adequate to minimise any crime risks related to the operation of the site.

8.1. BIBLIOGRAPHY

- Australian Institute of Criminology (www.aic.gov.au)

- International Centre for the Prevention of Crime (www.crime-prevention-intl.org)

- National Clearinghouse for Educational Facilities (2006) Safe School Facilities Checklist

- NSW Department of Planning, Crime prevention and assessment of development applications

- NSW Government, NSW State Priorities < https://www.nsw.gov.au/improving-nsw/premiers-priorities/ >.

- NSW Police, Safer by Design Guidelines

- Schneider, Tod (1998) Crime Prevention through Environmental Design: School CPTED Basics, National Clearinghouse for Educational Facilities

- Schneider, Tod; Walker, Hill; Sprague, Jeffrey (2000) Safe School Design: A Handbook for Educational Leaders Applying the Principles of Crime Prevention Through Environmental Design. Eugene Oregon: ERIC Clearinghouse on Education Management

- WA Department of Education, School Security Guidelines (http://det.wa.edu.au/policies/detcms/policy-planning-and-accountability).

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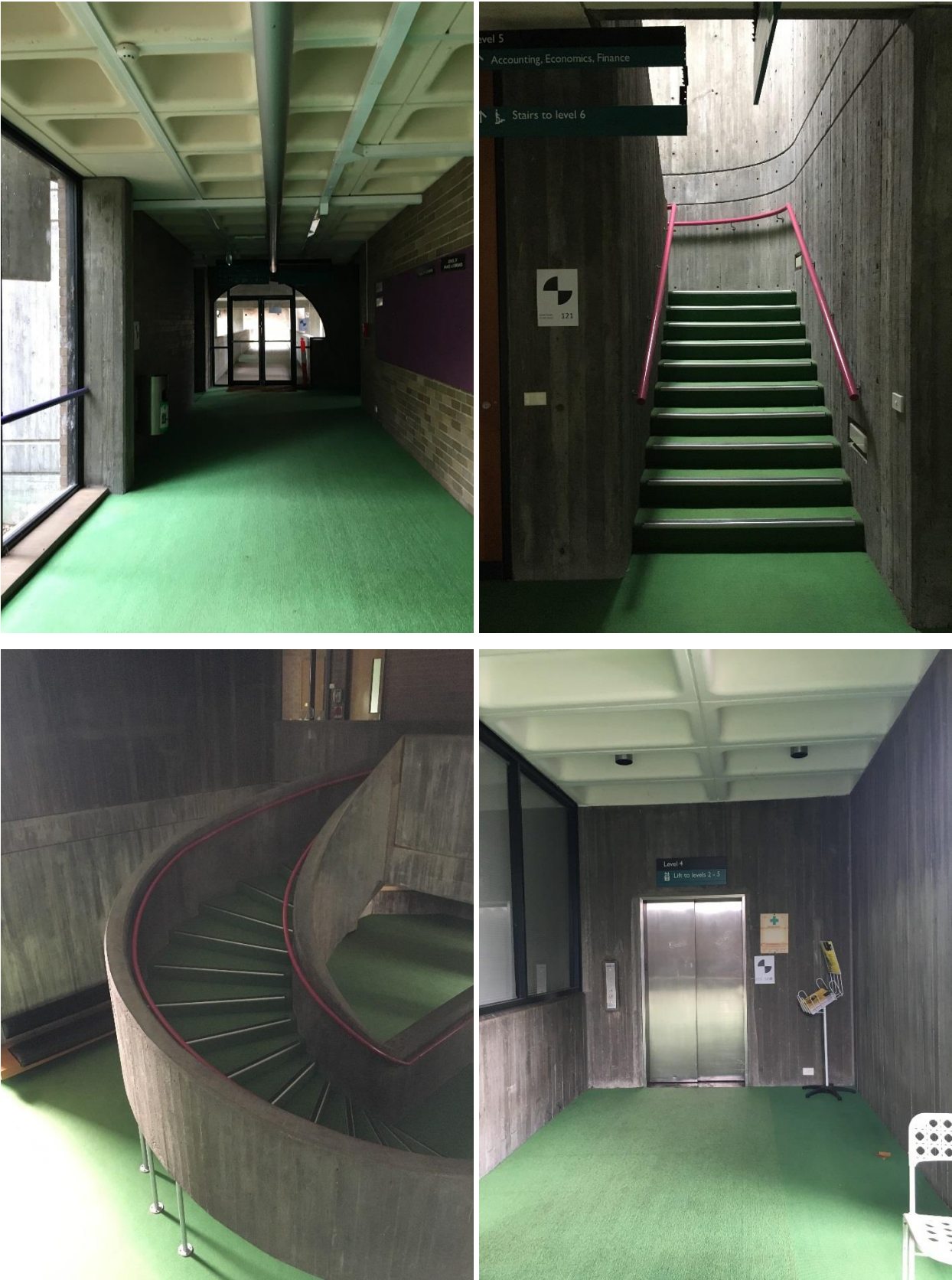# APPENDIX A   SITE VISIT PHOTOS

Figure 4 – Internal Layout

Figure 5 – Entry Points.

Figure 6 – External Areas

Figure 7 – Fences and Walls

Figure 8 – Balconies and Rooftops

APPENDIX B   DEMOGRAPHIC PROFILE

Table 6 – Demographic Summary Table

Data item	1 Km	2km	Ku-ring-gai LGA	Greater Sydney
Total population	7,941	24,780	109,153	4,390,956
Male	-	-	47.8%	49.2%
Female	-	-	52.2%	50.8%
Population Density (Persons per Sq.km)	1,249.7	1,604.7	1,278.8	355.0
Average per capita income	$48,922	$48,515	$48,495	$36,285
Age Distribution (%)				
Aged 0-4	6.72%	6.38%	5.29%	6.8%
Aged 5-9	7.82%	6.87%	7.12%	6.3%
Aged 10-14	7.63%	7.14%	8.14%	6.1%
Aged 15-19	7.14%	6.82%	8.04%	6.3%
Aged 20-24	5.3%	5.69%	5.76%	7.0%
Aged 25-29	4.37%	4.94%	3.5%	7.8%
Aged 30-34	3.74%	5.17%	3.69%	7.6%
Aged 35-39	6.55%	6.56%	5.55%	7.6%
Aged 40-44	8.71%	7.89%	7.61%	7.3%
Aged 45-49	8.6%	8.08%	8.33%	7.0%
Aged 50-55	7.22%	7.05%	7.63%	6.6%
Aged 55-59	6.56%	6.21%	6.15%	5.7%
Aged 60-64	5.94%	5.59%	5.73%	5.1%
Aged 65-69	4.13%	4.26%	4.69%	3.9%
Aged 70-74	3.36%	3.16%	3.68%	3.0%
Aged 75-79	2.37%	2.78%	3.09%	2.3%
Aged 80-84	1.83%	2.45%	2.81%	1.9%
Aged 85+	2.0%	2.97%	3.18%	1.8%
Aged 18+	6.72%	6.38%	74.32%	77.1%
Average Age	37.9	39.0	39.8	37.1
Dependency Ratio	35.86%	36.0%	38.01%	32.1%

Data item	1 Km	2km	Ku-ring-gai LGA	Greater Sydney
Country of Birth and Indigenous Identification (%)				
Australia born	65.7%	61.92%	63.15%	63.7%
Overseas born	34.3%	38.08%	36.85%	36.4%
United Kingdom	5.93%	6.04%	7.43%	4.4%
China	4.75%	5.62%	3.54%	
New Zealand	2.31%	2.09%	2.22%	2.1%
Hong Kong	2.3%	3.04%	2.59%	
Korea, Republic of (South)	1.8%	2.28%	1.87%	
South Africa	1.74%	1.71%	4.07%	
India	1.36%	1.69%	1.34%	2.0%
United States of America	1.1%	1.14%	1.07%	0.48%
Singapore	0.8%	0.62%	0.63%	
Indigenous population	0.03%	0.03%	0.1%	1.2%
Language Spoken at Home (%)				
English only	75.49%	71.68%	78.31%	65.7%
Chinese – Total (Cantonese, Mandarin, Other)	11.94%	13.41%	9.32%	6.8%
Korean	2.15%	2.74%	2.23%	
Japanese	0.59%	1.19%	0.7%	
Indo-Aryan Total (Bengali, Hindi, Punjabi, Sinhalese, Urdu, Other)	0.98%	1.48%	1.51%	
Household Income (%)				
$Neg/Nil	1.81%	2.06%	1.73%	1.7%
$1-$10,400	0.82%	1.24%	1.26%	1.7%
$10,400-$15,600	0.86%	1.12%	1.04%	2.8%
$15,600-$20,800	2.75%	3.22%	2.57%	5.7%
$20,800-$31,200	5.59%	5.93%	4.91%	8.5%
$31,200-$41,600	4.82%	4.73%	4.84%	8.0%

Data item	1 Km	2km	Ku-ring-gai LGA	Greater Sydney
$41,600-$52,000	5.81%	5.81%	5.72%	7.6%
$52,000-$65,000	4.82%	5.49%	5.21%	8.1%
$65,000-$78,000	6.07%	6.7%	5.83%	7.6%
$78,000-$104,000	9.25%	9.64%	9.52%	12.6%
$104,000-$130,000	6.97%	7.33%	7.13%	9.4%
$130,000-$156,000	17.43%	16.71%	17.81%	10.6%
$156,000-$182,000	10.28%	9.64%	10.52%	6.4%
$182,000-$208,000	6.07%	5.77%	6.41%	3.3%
$208,000 plus	16.65%	14.6%	15.51%	6.1%
Average Household Income	$137,660	$129,885	$135,055	$94,428
Household Income Variation	+45.8%	+37.5%	+43.0%	-
Housing Status (%)				
Owner	44.94%	42.94%	46.46%	31.1%
Purchaser	37.62%	34.54%	37.16%	35.7%
Renter	16.82%	21.2%	15.38%	32.4%
Public Renter	0.48%	1.24%	0.54%	5.4%
Private Renter	16.34%	19.96%	14.85%	27.0%
Households in Mortgage Stress (% Households)	0.0%	0.51%	1.14%	3.0%
Loan Mortgage Repayments (monthly $)	$3,171	$3,056	$3,188	$2,424
Households in Rental Stress (% Households)	0.59%	2.59%	1.85%	7.8%
Rent Payments (weekly $)	$608	$581	$645	$397
Car Ownership (%)				
0 Cars	5.59%	7.08%	4.18%	12.5%
1 Car	35.31%	39.8%	31.96%	39.6%
2 Cars	44.47%	40.23%	45.77%	33.9%
3 Cars	10.79%	9.08%	12.99%	9.5%

Data item	1 Km	2km	Ku-ring-gai LGA	Greater Sydney
4+ Cars	3.83%	3.81%	5.1%	4.5%
Household Structure (%)				
Family Households	81.42%	77.22%	82.22%	73.1%
Non-Family Households	18.58%	22.78%	17.78%	26.9%
Group	2.31%	2.9%	1.48%	4.3%
Lone Person	16.27%	19.89%	16.3%	22.6%
Family Composition (%)				
Couple family with no children	30.45%	31.86%	32.21%	33.5%
Couple family with children under 15	38.78%	37.29%	35.71%	32.5%
Couple family with no children under 15	19.62%	18.54%	21.01%	16.4%
One parent family with children under 15	4.24%	3.84%	3.79%	7.3%
One parent family with no children under 15	5.25%	6.9%	6.19%	8.4%
Other	1.66%	1.57%	1.08%	1.9%
Labour Force (%)				
% Unemployed	4.03%	4.47%	4.48%	5.7%
Labour Force Participation	67.39%	65.49%	62.89%	65.6%
Occupation (%)				
Managers	20.1%	19.52%	21.25%	13.5%
Professionals	42.03%	41.34%	39.63%	26.0%
Technicians & trades workers	4.72%	5.44%	5.33%	12.4%
Community & Personal Service Workers	7.61%	7.08%	7.09%	9.0%
Clerical & Administrative Workers	14.03%	14.88%	14.75%	16.5%
Sales Workers	7.66%	7.74%	8.28%	9.2%
Machinery operators & Drivers	1.11%	1.21%	1.03%	5.8%
Labourers	2.73%	2.78%	2.63%	7.5%
White Collar (%)	91.43%	90.57%	91.0%	74.3%

Data item	1 Km	2km	Ku-ring-gai LGA	Greater Sydney
Blue Collar (%)	8.57%	9.43%	9.0%	25.7%
Tertiary Education (%)				
Bachelor Degree or Higher	46.41%	45.26%	43.18%	24.1%
Advanced Diploma or Associate Degree	9.74%	10.1%	10.66%	9.0%
Undertaking Tertiary Education	8.77%	8.58%	8.46%	6.5%
Highest Level of Schooling Achieved (%)				
Year 8 or Below	1.4%	1.45%	1.21%	5.3%
Year 9 or Equivalent	2.11%	2.1%	1.9%	5.3%
Year 10 or Equivalent	9.12%	9.74%	10.41%	21.0%
Year 11 or Equivalent	2.86%	3.1%	3.62%	4.7%
Year 12 or Equivalent	84.28%	83.09%	82.54%	62.3%
Did not go to School	0.24%	0.52%	0.32%	1.5%
Dwelling Structure (%)				
Separate House (%)	86.59%	69.66%	79.3%	61.0%
Semi-detached (%)	3.44%	5.07%	4.3%	12.8%
Flat, Unit or apartment (%)	9.86%	25.02%	16.3%	25.8%
Other dwelling (%)	0.12%	0.25%	0.1%	0.5%

APPENDIX C   CRIME HOTSPOTS

Figure 9 – Crime Hotspots

Malicious damage to property

Break & enter dwelling

Domestic Assault

Steal from motor vehicle

Steal from dwelling

Break & enter non-dwelling

Motor vehicle theft

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