

**CRIME PREVENTION  
THROUGH  
ENVIRONMENTAL DESIGN  
(*CPTED*) REPORT**

APPENDIX BB





# Sydney Metro City & Southwest Pitt Street North Over Station Development:

## Crime Prevention Through Environmental Design (CPTED) Assessment

<b>Applicable to:</b>	Sydney Metro City & Southwest
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<b>Owner</b>	Sydney Metro
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## 1. Introduction

This Crime Prevention Through Environmental Design (CPTED) Assessment has been undertaken to assess the potential opportunities for crime and the perceived fear of crime that may be associated with the proposed Concept mixed use building envelope above the approved Pitt Street North Station, as envisaged in the Environmental Impact Statement (EIS) to which this report is appended.

CPTED is a situational crime prevention strategy that focuses on the design, planning and structure of the environment. This assessment aims to identify the potential opportunities of crime created by the proposed development by assessing the development in accordance with design and place management principles of CPTED.

Ethos Urban has prepared this assessment in accordance with the methods and resources of the NSW Police Force *Safer by Design Course*. This assessment has been prepared and reviewed by experienced CPTED professionals, following their completion of the NSW Police Force *Safer by Design Course*. The assessment uses qualitative and quantitative measures to analyse the physical and social environment in which the proposed development is located, and recommends actions to mitigate crime opportunity in accordance with the Australian and New Zealand Risk Management Standard AS/NZS 31000:2009.

In accordance with the NSW Department of Planning and Environment's guidelines (2001) the aim of the CPTED strategy is 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 a 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.

Architectural drawings prepared by Architectus have been reviewed as part of this assessment.

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

- review of the *Safer By Design Manual* by the NSW Police Force;
- collection and analysis of local and NSW State crime statistics from the Bureau of Crime Statistics and Research (BOCSAR); and
- a crime risk assessment, in accordance with the current NSW policy and practice, of the following regulation and assessment principles:

### 1. Surveillance

2. Lighting/technical supervision
3. Territorial reinforcement
4. Environmental maintenance
5. Activity and Space Management
6. Access control
7. Design, Definition and Designation

A site inspection was undertaken on the 19 March 2018 between the hours 11.00am and 1.00pm to assess the current site conditions, situational crime prevention measures and perceived safety of the existing environment.

This CPTED report is submitted as part of the development application submissions package for the Concept SSD Application relating to the proposed Over Station Development (OSD) mixed use building.

## 1.1. Disclaimer

CPTED strategies must work in conjunction with other crime prevention and social intervention strategies and police operations. By using the recommendations contained in this assessment, a person must acknowledge that:

- there is no definitive measure of 'safety'. Therefore, this assessment cannot be used as proof of a definitive measure of safety.
- this assessment does not ensure complete safety for the community, and public and private property.
- assessment and recommendations are informed by information provided, with observations made at the time the document was prepared.
- this document does not guarantee that all risks have been identified, or that the area assessed will be free from criminal activity if recommendations are followed.
- this assessment has been undertaken on behalf of the applicant and does not represent the opinions and expertise of the NSW Police Force.

The principles of CPTED aim to minimise the opportunity for crime, but it is recognised that environmental design cannot definitively eliminate opportunities for crime or prevent a determined perpetrator from committing such crimes.

We note that Ethos Urban are not specialist security consultants and therefore cannot comment on specific security measures or system requirements. A security plan for the site will be prepared in consultation with a security consultant with a Class 2A licence under the Security Industry Act 1997 who will be engaged to provide specific advice on the placement,

installation, monitoring and maintenance of the CCTV network and other security measures such as bollard/barriers.

## 1.2. Background

This report supports a concept State Significant Development Application (concept SSD Application) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The concept SSD Application is made under section 4.22 of the EP&A Act.

Sydney Metro is seeking to secure concept approval for a mixed use tower above the northern portal of Pitt Street Station, otherwise known as the over station development (OSD). The concept SSD Application seeks consent for a building envelope and its use for residential accommodation, visitor accommodation and commercial premises, maximum gross floor area (GFA), pedestrian and vehicular access, circulation arrangements and associated car parking as well as the strategies and design parameters for the future detailed design of development.

Sydney Metro proposes to construct the OSD as part of an integrated station development package, which would result in the combined delivery of the station, OSD and public domain improvements. The station and public domain elements form part of a separate planning approval for Critical State Significant Infrastructure (CSSI) approved by the Minister for Planning on 9 January 2017.

As the development is within a rail corridor, is associated with railway infrastructure and is for the purposes of residential or commercial premises with a Capital Investment Value of more than \$30 million, the project is State Significant Development (SSD) pursuant to Schedule 1, clause 19(2)(a) of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The full extent of the proposed development is also State Significant Development by virtue of clause 8(2) of the SRD SEPP.

This report has been prepared to respond to the Secretary's Environmental Assessment Requirements (SEARs) issued for the concept SSD Application for Pitt Street North on 30<sup>th</sup> November 2017 which state that the Environmental Impact Statement (EIS) is to address the following requirement:

*CPTED Assessment*

## 1.3. Overview of the Sydney Metro in its context

The New South Wales (NSW) Government is implementing *Sydney's Rail Future*, a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of customers in the future (Transport for NSW, 2012). Sydney Metro is a new standalone rail network identified in *Sydney's Rail Future*.

Sydney Metro is Australia's biggest public transport project, consisting of Sydney Metro Northwest, which is scheduled for completion in 2019 and Sydney Metro City & Southwest, which is scheduled for completion in 2024.

Sydney Metro West is expected to be operational in the late 2020s. (Refer to **Figure 1**).



**Figure 1:** Sydney Metro alignment map

Sydney Metro City & Southwest includes the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney’s CBD to Sydenham and on to Bankstown through the conversion of the existing line to metro standards.

The project also involves the delivery of seven new metro stations, including at Pitt Street. Once completed, Sydney Metro will have the ultimate capacity for 30 trains an hour (one every two minutes) through the CBD in each direction - a level of service never seen before in Sydney.

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham application as a Critical State Significant Infrastructure project (reference SSI 15\_7400), hereafter referred to as the CSSI Approval.

The CSSI Approval includes all physical work required to construct the CSSI, including the demolition of existing buildings and structures on each site. Importantly, the CSSI Approval also includes provision for the construction of below and above-ground structures and other components of the future ISD (including building infrastructure and space for future lift cores, plant rooms, access, parking and building services, as relevant to each site). The rationale for this delivery approach, as identified within the CSSI Application, is to enable the ISD to be more efficiently built and appropriately integrated into the metro station structure.



The EIS for the Chatswood to Sydenham component of the Sydney Metro City & Southwest project identified that the OSD would be subject to a separate assessment process.

Since the CSSI Approval was issued, Sydney Metro has lodged four modification applications to amend the CSSI Approval as outlined below:

- Modification 1- Victoria Cross and Artarmon Substation which involves relocation of the Victoria Cross northern services building from 194-196A Miller Street to 50 McLaren Street together with inclusion of a new station entrance at this location referred to as Victoria Cross North. 52 McLaren Street would also be used to support construction of these works. The modification also involves the relocation of the substation at Artarmon from Butchers Lane to 98 – 104 Reserve Road. This modification application was approved on 18 October 2017.
- Modification 2- Central Walk which involves additional works at Central Railway Station including construction of a new eastern concourse, a new eastern entry, and upgrades to suburban platforms. This modification application was approved on 21 December 2017.
- Modification 3 - Martin Place Station which involves changes to the Sydney Metro Martin Place Station to align with the Unsolicited Proposal by Macquarie Group Limited (Macquarie) for the development of the station precinct. The proposed modification involves a larger reconfigured station layout, provision of a new unpaid concourse link and retention of the existing MLC pedestrian link and works to connect into the Sydney Metro Martin Place Station. It is noted that if the Macquarie proposal does not proceed, the modification (if approved) would be surrendered. This modification application was approved on 22 March 2018.
- Modification 4 - Sydenham Station and Sydney Metro Trains Facility South which incorporated Sydenham Station and precinct works, the Sydney Metro Trains Facility South, works to Sydney Water's Sydenham Pit and Drainage Pumping Station and ancillary infrastructure and track and signalling works into the approved project. This modification application was approved on 13 December 2017. Given the modifications, the CSSI Approval is now approved to operate to Sydenham Station and also includes the upgrade of Sydenham Station.

The remainder of the City & Southwest project (Sydenham to Bankstown) proposes the conversion of the existing heavy rail line and the upgrade of the existing railway stations along this alignment to metro standards. This portion of the project, referred to as the Sydenham to Bankstown Upgrade, is the subject of a separate CSSI Application (No. SSI 17\_8256) for which an Environmental Impact Statement was exhibited between September and November 2017 and a Response to Submissions and Preferred Infrastructure Report was submitted to the NSW Department of Planning & Environment (DPE) in June 2018 for further exhibition and assessment.

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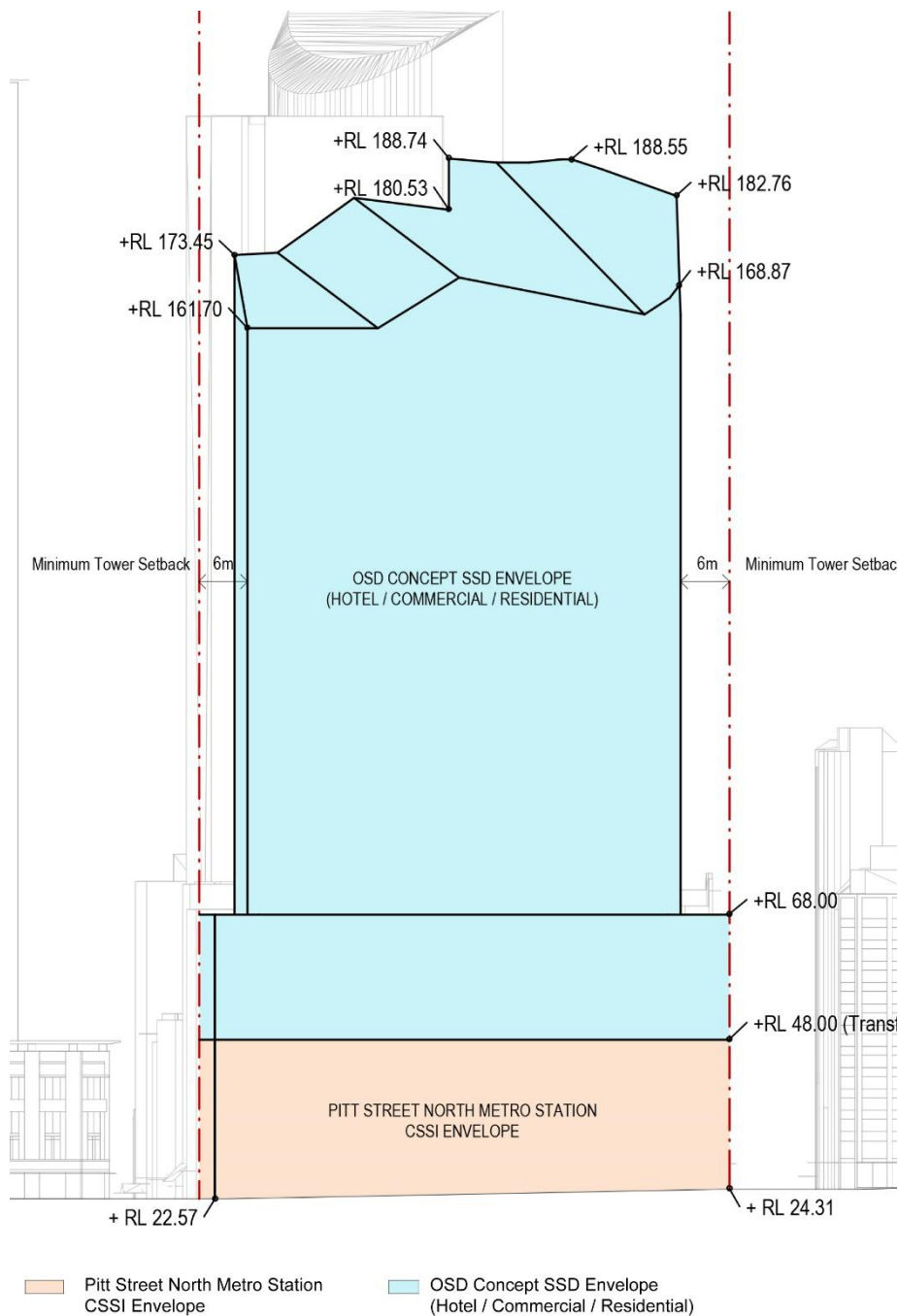
## 1.4. Planning relationship between Pitt Street Station and the OSD

While the northern portal of Pitt Street Station and the OSD will form an integrated station development, the planning pathways defined under the *Environmental Planning and Assessment Act 1979* require separate approval for each component of the development. In this regard, the approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to the provisions of Part 4 of the EP&A Act.

For clarity, the approved station works under the CSSI Approval included the construction of below and above ground structures necessary for delivering the station and also enabling construction of the integrated OSD. This included but is not limited to:

- demolition of existing development
- excavation
- station structure including concourse and platforms
- lobbies
- retail spaces within the station building
- public domain improvements
- station portal link (between the northern and southern portals of Pitt Street Station)
- access arrangements including vertical transport such as escalators and lifts
- structural and service elements and the relevant space provisioning necessary for constructing OSD, such as columns and beams, space for lift cores, plant rooms, access, parking, retail and building services.

The vertical extent of the approved station works above ground level is defined by the 'transfer slab' level (which for Pitt Street North is defined by RL 48.00), above which would sit the OSD. This delineation is illustrated in **Figure 2** below.



**Figure 2:** Delineation between station and OSD

The CSSI Approval also establishes the general concept for the ground plane of Pitt Street Station including access strategies for commuters, pedestrians and workers. In this regard, pedestrian access to the station would be from Park Street and the OSD lobbies would be accessed from Pitt Street, Park Street and Castlereagh Street.

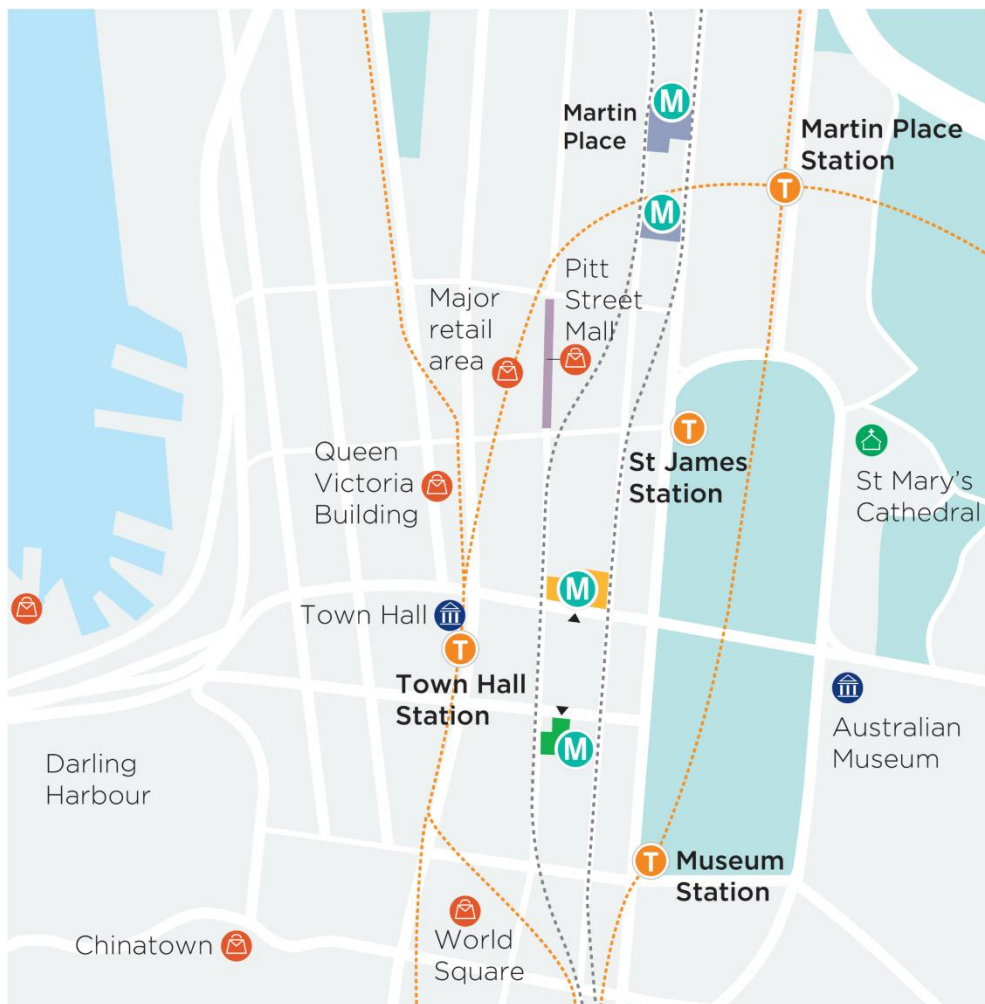
Since the issue of the CSSI Approval, Sydney Metro has undertaken sufficient design work to determine the space planning and general layout for the station and identification of those

spaces within the station area that would be available for the OSD. In addition, design work has been undertaken to determine the technical requirements for the structural integration of the OSD with the station. This level of design work has informed the concept proposal for the OSD. It is noted that ongoing design development of the works to be delivered under the CSSI Approval would continue with a view to developing an Interchange Access Plan (IAP) and Station Design Precinct Plan (SDPP) for Pitt Street Station to satisfy Conditions E92 and E101 of the CSSI Approval.

The public domain improvement works around the site would be delivered as part of the CSSI Approval.

### 1.5. The Site

The Pitt Street North OSD site is located at the southern portion of the Sydney CBD block bounded by Pitt Street, Park Street and Castlereagh Street, above the northern portal of the future Pitt Street Station (refer to **Figure 3** below).



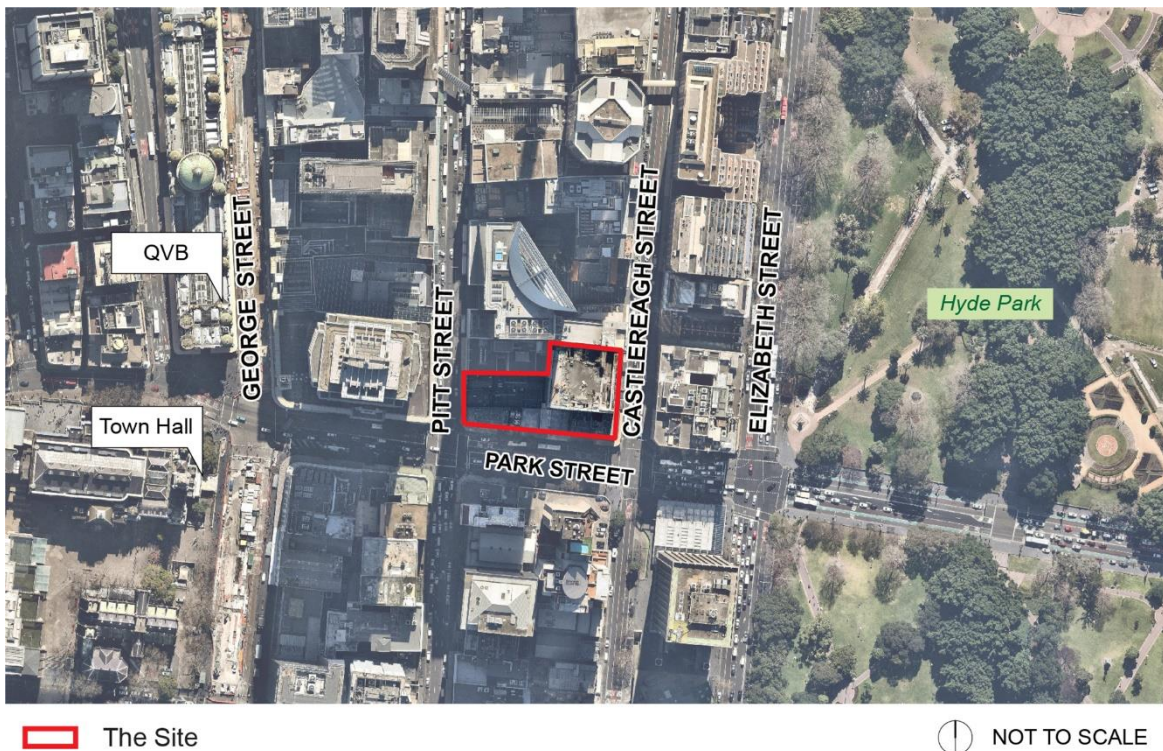
**Figure 3:** Pitt Street Station location plan



The site is located in the City of Sydney Local Government Area. The site (refer to **Figure 4** below) is irregular in shape, has a total area of approximately 3,150 square metres and has street frontages of approximately 28 metres to Pitt Street, 81 metres to Park Street and 48 metres to Castlereagh Street.

The site address is 175-183 Castlereagh Street, Sydney and comprises the following properties:

- Lot 3 in DP 74952
- Lot 1 in DP 229365
- Lot 2 in DP 900055
- Lot 1 in DP 596474
- Lot 17 in DP 1095869
- Lot 2 in DP 509677
- Lot 1 in DP 982663
- Lot 2 in DP 982663
- Lot 3 in DP 61187
- Lot 1 in DP 74367



**Figure 4:** Aerial photo of Pitt Street North

## 1.6. Existing Development

The existing site comprises a construction site associated with the underground metro station component of the development which relates to a separate CSSI Approval. Accordingly, all existing buildings have been demolished and secure construction hoarding line the perimeter of the vacant site at each of its frontages.

Prior to the current construction works, the site was occupied by nine fine grained buildings ranging from three to fourteen storeys in height. These buildings accommodated retail uses at street level and office uses above.

The existing site conditions are illustrated below at **Figure 5** and **Figure 6**.



**Figure 5:** Existing site viewed from the secondary frontage of Pitt Street



**Figure 6:** Existing site viewed from the primary frontage of Park Street

### 1.6.1. Access and Security

Pedestrian access to the site has historically been obtained from the dedicated pedestrian footpaths at each of the site's frontages. However, as the site is undergoing redevelopment, access from the footpaths is restricted to site personal and prohibited to the public.

### 1.6.2. Surrounding Development

The surrounding development is pivotal to understanding the crime risks associated with the site. The site is located centrally to the Sydney CBD and surrounded by high storey mixed-use developments. The site benefits from three street frontages and is located on the corner of two busy intersections. Consequently, mixed use buildings with active uses at street level overlook the development and are segregated from the site by roads that experience high levels of pedestrian and traffic movements.

To the direct south the site is bounded by Park Street which functions as the site's primary street frontage (refer to **Figure 7**). Park Street comprises a two-way arterial road that provides three general traffic lanes, a bus lane and a parking / loading / servicing lane. Park Street is serviced by a bus interchange associated with Town Hall Station. It experiences high amounts of pedestrian and vehicular traffic. Located further southward is the Regis Building, which comprises a multistorey residential mixed-use building with ground floor retail uses setback and sited above a four storey above ground carpark (refer to **Figure 8**). A three storey heritage listed building known as the Criterion Hotel adjoins this car park to the

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west and accommodates a food and drink premises at street level, with temporary visitor accommodation above.

To the immediate east Castlereagh Street bounds the site, which consists of a two-lane street that carries southbound traffic. On the eastern side of Castlereagh Street directly adjacent to the site are a range of multi-storey buildings that provide a series of fine-grained retail tenancies at street level (refer to **Figure 9**). To the south east lies the busy intersection of Castlereagh Street and Park Street, as shown in **Fine-grained uses** along Castlereagh Street **Figure 10**. The entrance to Museum Station is located at the south eastern corner with a 28 storey existing commercial building setback from and located above. In accordance with SSD 16\_8105, this building is earmarked to be redeveloped to accommodate a 50 storey hotel development with ground, lower ground and mezzanine retail. The development will also provide a potential connection to the future Pitt Street North Sydney Metro Station. Beyond this lies Hyde Park, as shown in **Figure 11**.

To the direct west the site is bounded by Pitt Street which supports northbound traffic. A commercial building known as the Citigroup Centre sits directly adjacent to the site. The development includes a five storey podium containing fine-grained active retail uses along Pitt Street that are oriented towards the site. The building also incorporates an expansive foyer with glazed fenestration that extends along the Park Street frontage, and accommodates a concierge. The podium supports a multi-storey commercial building that contains office uses with windows oriented towards the site that provide opportunities for onlooking. The intersection of Pitt and Park Street is located to the immediate south west and smaller scale multistorey buildings with active retail uses at street level are located further to the south west. These retail uses include a Woolworths Supermarket that operates outside of standard business hours.

To the direct north east the site adjoins a twelve-storey heritage listed building known as the New South Wales Masonic Club Building (refer to **Figure 11** and **Figure 12**).





**Figure 7:** Park street viewed looking north east



**Figure 8:** Above ground car park to the south



**Figure 9:** Fine-grained uses along Castlereagh Street



**Figure 10:** Castlereagh / Park Street intersection



**Figure 11:** Hyde Park to the south east



**Figure 12:** Frontage of the NSW Masonic Club Building

Overall, the Crime Risk of the site is considered to be 'moderate'.

The key positive elements of the site are:

- The site lies between two busy intersections which support a high level of pedestrian and vehicular traffic.
- The site is surrounded by multi-storey buildings with podiums built to the street frontage. These developments generally provide active retail uses at street level and office uses or temporary residential accommodation above that overlook the development and provide a high level of 'natural' community policing and effective guardianship.
- The surrounding retail uses relate to businesses that operate outside of standard trading hours and encourage the pedestrianisation of the area both during the day and at night.
- The surrounding locality is generally well maintained and includes signage and paving that provides a clear delineation between public and private space.
- The surrounding built form is characterised by a number of high quality developments, including heritage listed buildings, contributing to the perception that the area is well cared for.
- Many of the surrounding buildings provide secure access arrangements with guardians such as security guards and concierges located within foyer areas at street level that provide opportunities for surveillance and natural community policing; and
- The surrounding streetscape provides dedicated footpaths that have high levels of pedestrian usage consistent with its CBD location.

The key negative elements of the site are:

- The site is located centrally to Sydney's CBD which typically experiences higher rates of crime (however not necessarily higher rates of victimisation).
- The site sits adjacent to a railway station, which is more susceptible to criminal activity.
- The site is opposite a commercial / retail above ground centre car park and in proximity to an expansive area of public open space (Hyde Park), both of which are land uses with inherent potential for increased crime and may serve as escape routes.
- The Park Street frontage accommodates a bus stand which provides opportunities for loitering.
- Service plant is positioned along the Park Street frontage and provides opportunities for concealment.

## 1.7. Overview of the proposed development

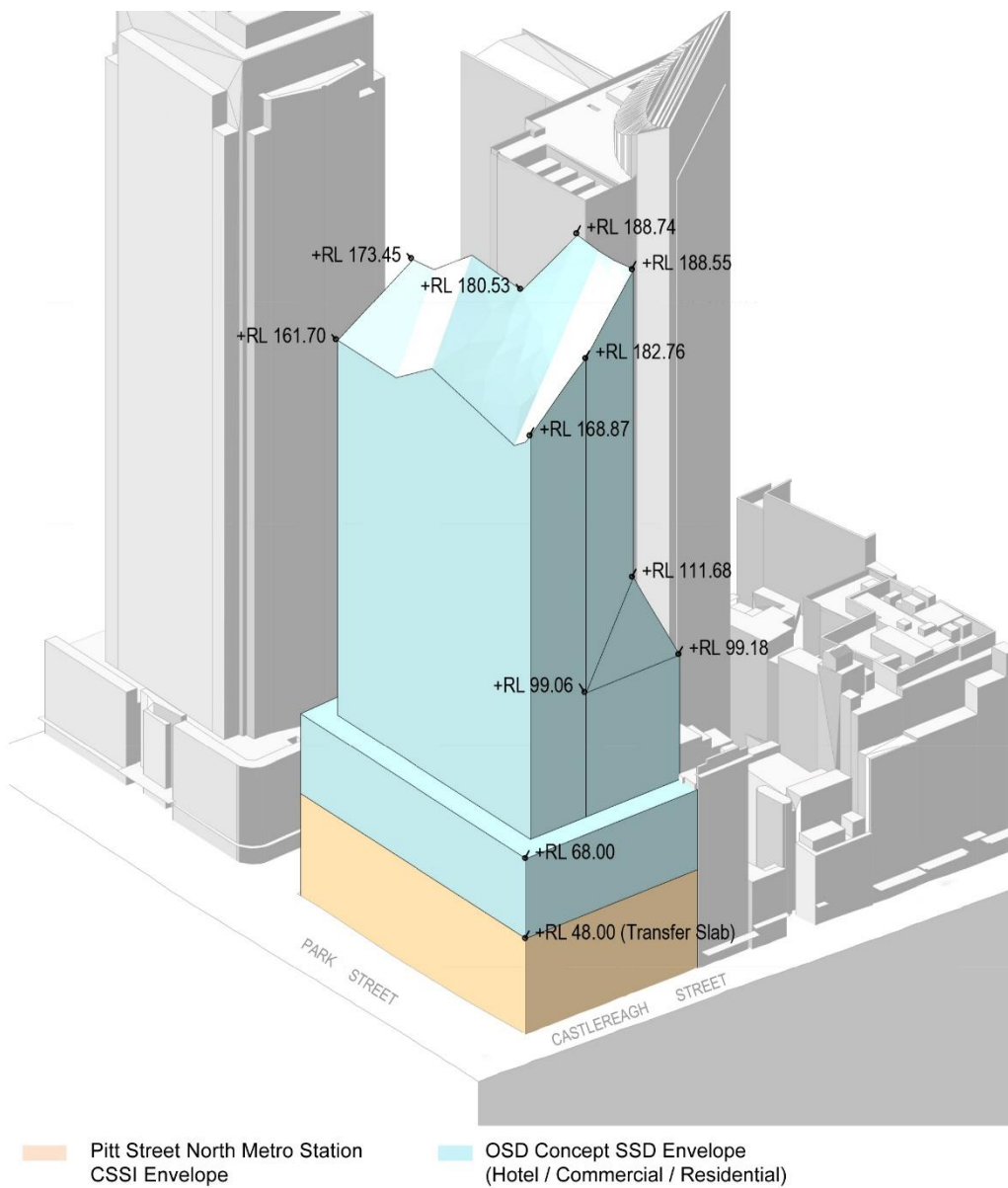
The concept SSD Application seeks concept approval in accordance with section 4.22 of the EP&A Act for the OSD above the approved Pitt Street Station (northern portal). This Application establishes the planning framework and strategies to inform the detailed design of the future OSD and specifically seeks planning approval for:

- a building envelope as illustrated at **Figure 13**
- a maximum building height of approximately Relative Level (RL) 189 which equates to approximately 43 storeys including a podium height of RL68 (approximately 45m), which equates to approximately 12 storeys above ground
- a maximum GFA of 49,120 square metres for the OSD component, which equates to a Floor Space Ratio (FSR) of 15.59:1, resulting in a total maximum GFA at the site (including station floorspace) of 50,309 square metres and a total maximum FSR of 15.97:1, including flexibility to enable a change in the composition of land uses within the maximum FSR sought
- conceptual use of the building envelope for a range of uses including commercial office space, visitor accommodation and residential accommodation
- use of the conceptual OSD space provisioning within the footprint of the CSSI Approval (both above and below ground), including the OSD lobby areas, podium car parking, storage facilities, services and back-of-house facilities
- car parking for approximately 50 spaces located across five levels of the podium
- loading and vehicular access arrangements from Pitt Street
- pedestrian access from Pitt Street, Park Street and Castlereagh Street
- strategies for utilities and service provision
- strategies for the management of stormwater and drainage
- a strategy for the achievement of ecologically sustainable development
- indicative signage zones
- a strategy for public art
- a design excellence framework
- the future subdivision of parts of the OSD footprint (if required)

As this concept SSD Application is a staged development pursuant to section 4.22 of the EP&A Act, future approval would be sought for detailed design and construction of the OSD. A concept indicative design, showing a potential building form outcome at the site, has been provided as part of this concept SSD Application at Appendix E.

Pitt Street Station is to be a key station on the future Sydney Metro network, providing access to the Sydney Central Business District (CBD). The proposal combines the metro station with a significant mixed use tower, contributing to the Sydney skyline. The OSD would assist in strengthening the role of Central Sydney as the key centre of business in Australia and would contribute to the diversity, amenity and sustainability of the CBD.

It is noted that Pitt Street Station southern portal OSD has been subject to a separate application, and does not form part of this concept SSD Application.



**Figure 13:** Pitt Street North OSD building, including OSD components (orange) and station box (grey)





**Figure 14:** Pitt Street North OSD indicative design, as seen from eastern, southern and western elevations

## 1.8. Pedestrian Access

Pedestrian access to the site is obtained via dedicated footpaths at each of the site's three street frontages. As the site is situated centrally in the Sydney CBD, it benefits from an established pedestrian network that is highly pedestrianised and well serviced by public transport. Direct access to the site is proposed from all three street frontages. Specifically, the following direct access arrangements to each of the building's uses will be provided:

- entry to the proposed Metro Concourse will be obtained from the existing dedicated footpath along Park Street, which will provide access to escalators that will facilitate entry to the below ground station;
- entry to the hotel will be obtained from Park Street via an expansive foyer area with glazed fenestration that accommodates a lift core, stairs and a concierge;
- entry to the back of house services contained in the basement is proposed from separate secure entrance off Castlereagh and Pitt streets; and
- entry to the staff facilities within the basement is proposed from the secure commercial lobby off Castlereagh Street, which accommodates stairs and a lift core.

## 1.9. Vehicular Access

The proposed development incorporates car parking within the OSD component of the development from Level 5 to Level 10. Access to these parking areas will be obtained from Park Street via the loading dock entrance. Vehicles will be transported to the parking areas via a car lift sited directly adjacent to the Park Street vehicular entrance point.

## 1.10. Bicycle Access

The site is highly accessible to cyclists via a network cycle routes, including a number of current and future cycleway corridors. Park Street and Pitt Street are both considered as 'Direct Routes with Higher Traffic', although they do not have a dedicated cycleway. However, in accordance with the Sydney City Centre Access Strategy, the site will benefit from new cycle networks, including the construction of a new cycleway along Pitt Street and Park Street that will improve cycle connections to the broader CBD.

## 1.11. Staging and framework for managing environmental impacts

Sydney Metro proposes to procure the delivery of the Pitt Street North integrated station development in one single package, which would entail the following works:

- station structure
- station fit-out, including mechanical and electrical
- OSD structure
- OSD fit-out, including mechanical and electrical.

Separate delivery packages are also proposed by Sydney Metro to deliver the excavation of the station boxes/shafts ahead of the ISD delivery package, and line-wide systems (e.g. track, power, ventilation) and operational readiness works prior to the Sydney Metro City & Southwest metro system being able to operate.

Three possible staging scenarios have been identified for delivery of the Integrated station development:

1. Scenario 1 – the station and OSD are constructed concurrently by constructing the transfer slab first and then building in both directions. Both the station and OSD would be completed in 2024.
2. Scenario 2 – the station is constructed first and ready for operation in 2024. OSD construction may still be incomplete or soon ready to commence after station construction is completed. This means that some or all OSD construction is likely to still be underway upon opening of the station in 2024.
3. Scenario 3 – the station is constructed first and ready for operation in 2024. The OSD is built at a later stage, with timing yet to be determined. This creates two distinct construction periods for the station and OSD.

Scenario 1 represents Sydney Metro's preferred option as it would provide for completion of the full integrated station development and therefore the optimum public benefit at the site at the earliest date possible (i.e. on or near 2024 when the station is operational). However,

given the delivery of the OSD could be influenced by property market forces, Scenarios 2 or 3 could also occur, where there is a lag between completion of the station component of the ISD (station open and operational), and a subsequent development.

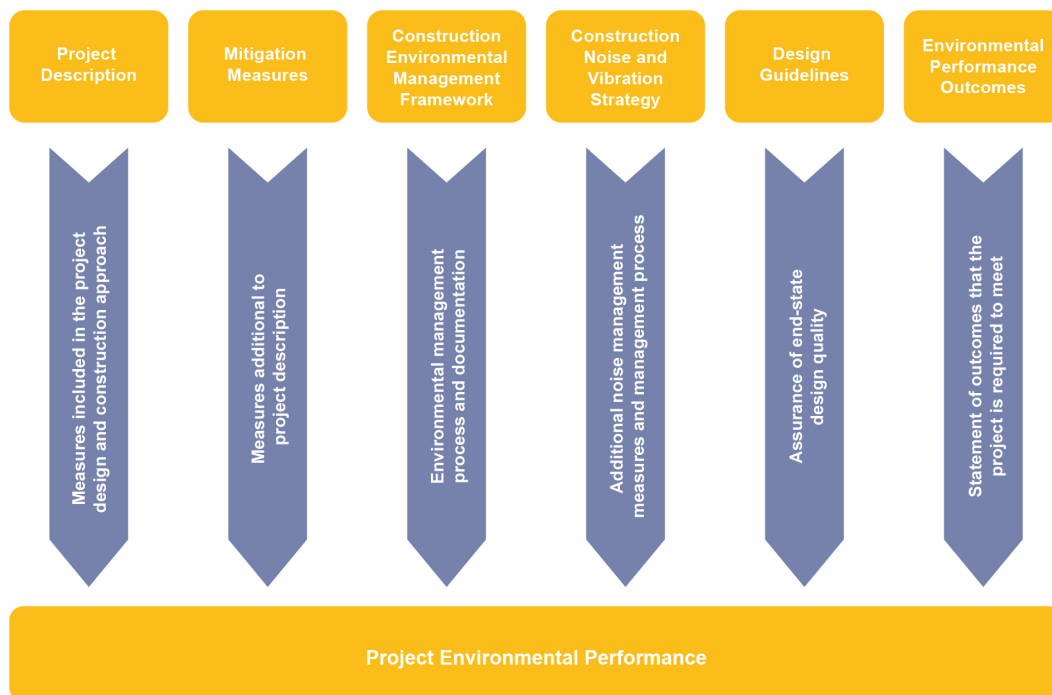
The final staging for the delivery of the OSD would be resolved as part of the detailed SSD Application(s).

For the purposes of providing a high level assessment of the potential environmental impacts associated with construction, the following have been considered:

- Impacts directly associated with the OSD, the subject of this SSD Application
- Cumulative impacts of the construction of the OSD at the same time as the station works (subject of the CSSI Approval).

Given the integration of the delivery of the Sydney Metro City & Southwest metro station with an OSD development, Sydney Metro proposes the framework detailed in **Figure 15** to manage the design and environmental impacts, consistent with the framework adopted for the CSSI Approval, which includes:

- project design – measures which are inherent in the design of the project to avoid and minimise impacts
- mitigation measures – additional to the project design which are identified through the environmental impact assessment
- construction environmental management framework – details the management processes and documentation for the project
- construction noise and vibration strategy – identifies measures to manage construction noise and vibration
- design guidelines – provides an assurance of end-state quality
- environmental performance outcomes – establishes intended outcomes which would be achieved by the project



**Figure 15:** Project approach to environmental mitigation and management

Sydney Metro proposes to implement a similar environmental management framework where the integrated delivery of the CSSI station works and the OSD occur concurrently. This would ensure a consistent approach to management of design interface and construction-related issues.

Sydney Metro proposes this environmental management framework would apply to the OSD until completion of the station and public domain components of the integrated station development delivery contract (i.e. those works under the CSSI Approval). Should the OSD be constructed beyond the practical completion and opening of the section, standard practices for managing construction related environmental impacts would apply in accordance with the relevant guidelines and Conditions of Approval for the detailed SSD Application(s).



## 2. Nature of Recorded Crime

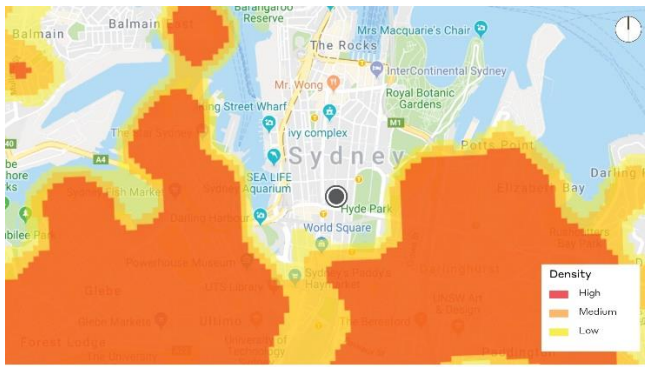
Crime statistics obtained from the NSW Bureau of Crime Statistics and Research (BOCSAR) represents criminal incidents recorded by NSW Police. A review of the local statistics for 2017 found that the most commonly occurring crimes relevant to CPTED within the City of Sydney LGA (rates per 100,000 persons) were:

- Fraud
- Non-domestic assault
- Steal from retail store
- Malicious damage to property
- Steal from person
- Steal from dwelling
- Domestic violence related assault

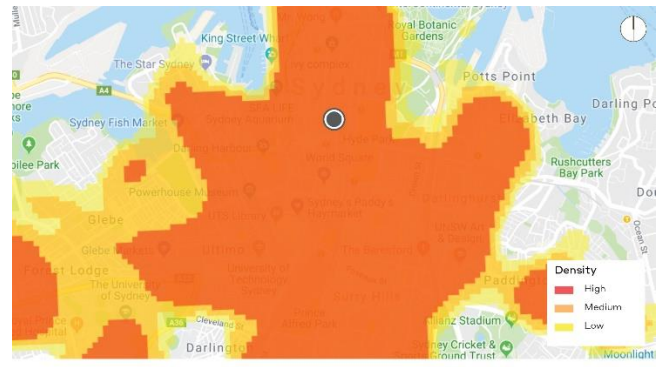
As shown in **Figure 16** to **Figure 25**, the BOSCAR database indicates that the site is located within a hotspot for the following crimes:

- Break and enter non-dwelling
- Malicious damage to property
- Motor vehicle theft
- Non-domestic assault
- Robbery
- Steal from dwelling
- Steal from person
- Break and enter dwelling
- Steal from motor vehicle
- Domestic violence related assault

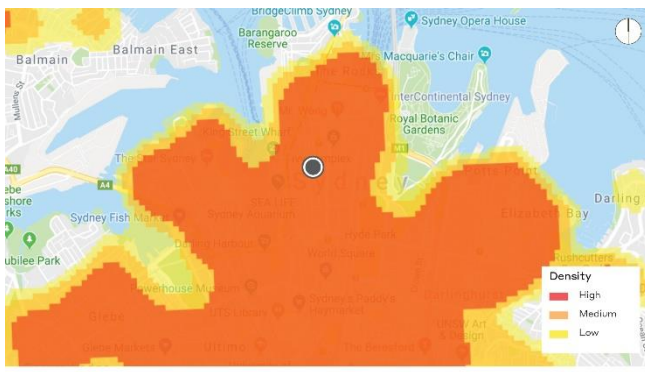
Notwithstanding the above, hotspots indicate areas of high crime density (number of incidents per 50m by 50m) relative to crime concentrations across NSW. They are not adjusted for the number of residents and visitors in the area and thus may not reflect the risk of victimisation. It is noted that the BOSCAR statistics indicate that the majority of the Sydney CBD is included within these hotspot areas.



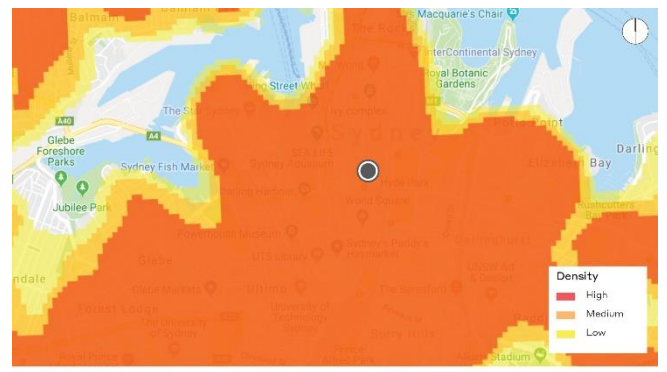
**Figure 16: Hotspot - Break and enter dwelling**



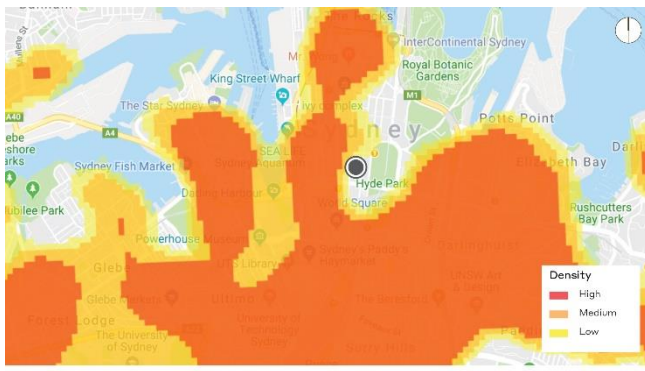
**Figure 17: Hotspot - Break and enter non-dwelling**



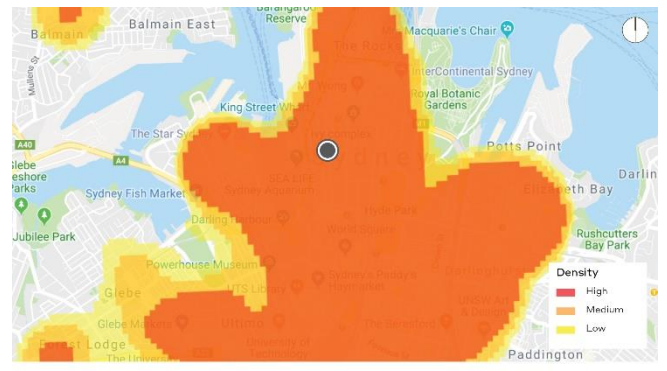
**Figure 18: Hotspot - Domestic assault**



**Figure 19: Hotspot - Malicious damage to property**



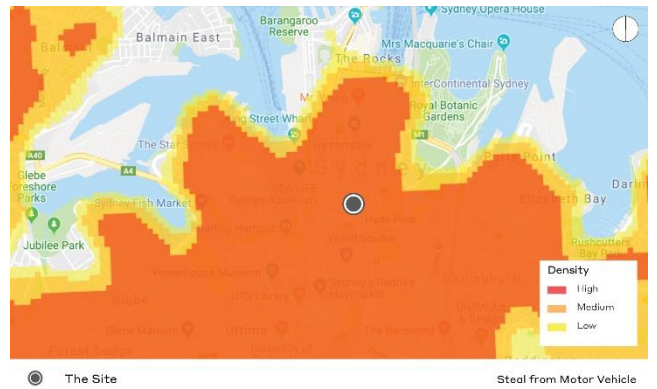
**Figure 20: Hotspot - Motor vehicle theft**



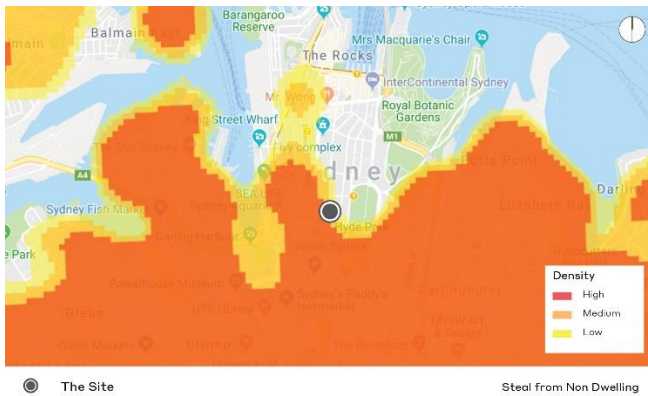
**Figure 21: Hotspot - Non-domestic assault**



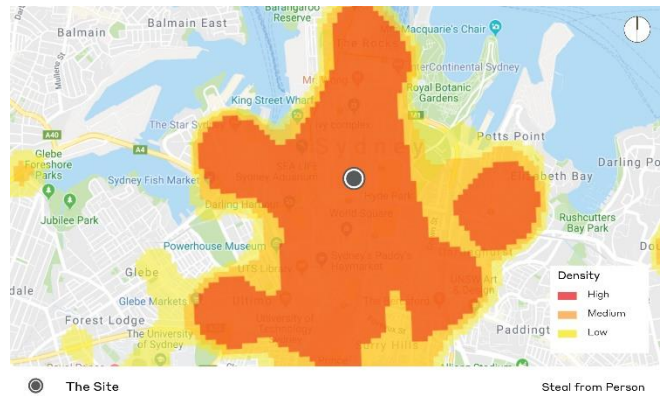
**Figure 22: Hotspot - Robbery**



**Figure 23: Hotspot - Steal from motor vehicle**



**Figure 24: Hotspot - Steal from non-dwelling**



**Figure 25: Hotspot - Steal from person**

The frequency of the crimes identified above in the Sydney CBD, between 2014 and 2017 are detailed below in **Table 1**.

**Table 1: Statistics of recorded crime in Sydney (Suburb) between 2014 and 2017**

Crime	Incidents 2014	Incidents 2015	Incidents 2016	Incidents 2017	2014 – 2017 Trend
Fraud	6850	6521	5637	4537	Decline
Steal from retail store	2321	2201	2631	3101	Increase
Break and enter non-dwelling	590	451	600	581	Stable
Steal from dwelling	1237	1242	1058	1002	Decline
Non-domestic assault	3164	3156	3287	3208	Stable
Robbery	383	339	262	274	Decline
Domestic assault	1019	994	964	1010	Stable
Steal from person	1891	1671	1405	1213	Decline
Malicious damage to property	2878	2714	2746	2488	Stable
Motor vehicle theft	410	357	319	331	Decline
Break and enter dwelling	905	853	802	704	Decline
Steal from motor vehicle	2167	1696	1630	1163	Decline

Hotspots indicate areas of higher crime density (number of incidents per 50m by 50m) relative to crime concentrations across NSW. They are not adjusted for the number of residents and visitors in the area and thus may not accurately reflect the risk of victimisation in locations such as the Sydney CBD with very high levels of residents and visitors.



### 3. Matters for Consideration

A potential perpetrator can take advantage of the environment, with access and the opportunity for concealment significantly affecting the safety and perceived safety of an environment. Given the site's CBD location and its location within the hotspots identified above, the following is an assessment of the proposed development's potential to create opportunities for such crimes.

#### 3.1. Surveillance

Opportunities for crime can be reduced by providing opportunities for effective natural surveillance. The surveillance principle indicates that offenders are often deterred from committing a crime in areas with high levels of natural surveillance that foster communal activity. The following design features can improve natural surveillance:

- clear, direct path that encourage pedestrian activity and allow for clear lines of sight;
- establishing buildings close to the street frontage to allow passing traffic to observe the development;
- clear building entry points, highly visible from the street and pedestrianised areas;
- orientation of building entrances and windows towards the street, public domain and parking areas.
- appropriate lighting and effective guardianship of communal and/or public areas; and
- minimised opportunities for offenders to hide or entrap victims.

##### 3.1.1. Ground Level

The proposed development provides a high level of natural surveillance, both to the development itself and to the surrounds. The site benefits from three street frontages that are frequented by high levels of vehicles and foot traffic throughout the day. Due to the site's location in the core of the CBD, the site is surrounded by high rise commercial developments, with active frontages typically provided at street level. Accordingly, the site is already afforded a high level of natural surveillance. For the reasons outlined below, it is considered the Concept SSD will further maximise opportunities for natural surveillance.

Buildings that address the street provide opportunities for natural surveillance between occupants and the general public, which can be maximised through the provision of windows and pedestrian entrances which face public areas. The Concept SSD incorporates active spaces such as the metro concourse and lobby areas at street level. Consequently, the site is expected to accommodate even higher number of pedestrians and as it is common for individuals to linger in these highly pedestrianised spaces, opportunities for natural surveillance will be further maximised. However, it is noted that there will be periods outside of standard business hours where the concourse will experience limited pedestrian movements. In light of this, formal surveillance measures such as CCTV should be incorporated, as discussed in the recommendations provided in Section 5.1.

The layout, placement and orientation of these active spaces will maximise informal surveillance opportunities. These active spaces have been located along and oriented towards each of the three street frontages. Specifically, the hotel foyer and metro concourse extend for the most part of the building's primary frontage along Park Street while the residential and commercial lobbies are situated at the secondary frontages of Pitt Street and Castlereagh Street. The metro concourse opens out towards the site's primary frontage, creating a strong sense of natural surveillance for passers-by. All lobby areas generally provide clear and linear paths of travel. Combined with the proposed glazed fenestration, each lobby entrance and the hotel foyer will be clearly defined and will permit sightlines to and from the development. Consequently, the building entries will be easily identifiable from the streetscape, allowing each to permit surveillance from the public domain to the inside of the building at night.

The proposal is built to the street frontages and generally provides a straight building alignment devoid of alcoves, inset doorways or recesses that are capable of impeding sightlines or providing opportunities for offenders to hide. Portions of the façade are blank in the location of plant rooms. The use of formal surveillance through the provision of CCTV cameras in these locations would further add to the level of surveillance.

Entry areas such as concourses, foyers and lobbies can be supervised naturally through the strategic placement of capable guardians (i.e. concierges, the general public, occupants, caretakers etc.). The proposed indicative uses at street level provide the opportunity for natural surveillance from capable guardians, including the general public and hotel and station staff. Additionally, as the metro concourse facilitates access to the below ground station it will be publicly accessible outside standard operating hours. Accordingly, the ground plane will experience higher levels of occupancy, both during the day and at night, allowing for the surveillance and natural community policing of the area to improve.

### **3.1.2. Loading Dock**

The loading dock is located within the Ground Level and will be frequented by vehicles and foot traffic throughout the day. As the loading dock is separated from the basement, entry to the loading area will be limited to service vehicles and associated personal. This will avoid the need for waste collection vehicles and staff accessing private areas of the basement that are designated for use by residents and staff. The loading dock will be supervised by a dock manager who will be stationed at an office located adjacent to the vehicular entrance point. The location of the dock manager's office will allow for the formal surveillance of the dock area and restrict public access.

### **3.1.3. Basement**

The proposed basement predominantly contains facilities for staff, which include storage rooms and lockers. The basement will also accommodate a maintenance office, plant and services. Access to the basement will be restricted to maintenance personnel and building staff. The internal layout generally provides linear corridors to circulation points; however, there are some corridors with non-linear paths of travel with blind corners that provide

opportunities for concealment. Given this, it is recommended CCTV in conjunction with adequate illumination be installed throughout to improve surveillance in these areas and ensure clear CCTV footage can be captured.

### 3.2. Lighting and Technical Supervision

Effective lighting can reduce fear, increase community activity, improve visibility and increase the likelihood that offenders will be detected. All lighting should meet (and preferably exceed) minimum Australia and New Zealand Lighting Standards and the objectives for crime and fear reduction are outlined in Australian Lighting Standards. Furthermore, a consistent maintenance and cleaning regime should be put in place to ensure all lighting and CCTV cameras remain in good working condition.

Lighting provided internally and externally to the development. Lighting levels should be adequate to permit facial recognition and allow for informal surveillance. Bright and well distributed lighting should be in place at all of the building's entrances and egress points. Lighting types should be of a high quality and be vandal resistant to ensure longevity and allow for less maintenance or replacement. All lighting should be designed and managed in the context of the location to maximise effectiveness. Where recesses and blind corners cannot be avoided, the use of extra lighting and / or mirrors should be considered.

Given that many of the development's components are publicly accessible, CCTV cameras should be installed through the development, including back of house areas and circulation corridors. It is recommended that a CCTV network plan be developed by a security consultant for the back of house areas and the overall development. To ensure the CCTV network is effective, lighting in and around the development should be designed to correspond with the placement of the CCTV cameras to permit adequate facial recognition of CCTV images at all times. A suitably qualified consultant should be engaged to advise on the lighting specifications. Recommendations are provided in Section 6.1.

### 3.3. Territorial Reinforcement

The NSW Police Safer by Design Guidelines note that people generally recognise areas that are well cared for and areas that display strong ownership cues are less likely to be improperly used than those that do not. In particular, ownership cues are heightened and fear can be reduced amongst residents and visitors through the personalisation, marking, maintenance and decoration of a building.

The proposal will provide a high level of territorial reinforcement, with the following ownership cues and formal guardians provided:

- the hotel lobby is proposed at Ground Level and will incorporate a glazed façade with a reception desk that will be highly visible from the frontages of Pitt Street and Park Street;
- residential and commercial lobby areas are provided along the secondary street frontages;

- a dock manager will be stationed in an office that incorporates glazed windows adjacent to the entrance of the loading dock; and
- a station control room that will be occupied by staff is located at the entrance to the metro concourse.

The location of the aforementioned lobbies, reception areas and staff offices for station / building employees at the street frontages will increase the presence of formal guardians across the site. Consequently, the perceived risk to offenders and the effort needed to commit a crime due to formal guardians will be enhanced. Care must be taken to ensure that the entrance to the loading area is well monitored in the future.

The introduction of a greater number of individuals will increase the territorial reinforcement of the site. The provision of active spaces such as the metro concourse and lobby areas will increase the presence of informal guardians. The strategic location of formal guardians such as station and concierge staff will increase the risk to offenders and the degree of effort required to commit a crime, as it is commonly thought that supervision provided by employees is more effective as a crime deterrent than surveillance provided by passers-by.

Suitable way finding signage at the perimeter of the development, along with building / business identification signage associated with the hotel, station and commercial uses is recommended to help reduce the opportunities for people to find excuses to gain unauthorised access and / or to loiter in areas of the development, or immediately adjacent to entries. Whilst all access points are legible and inviting, signage will further enhance this perception.

Overall, it is considered that the development is capable of providing appropriate opportunities for formal guardians in and around the development that will help to deter offenders and increase the risk of detection. As such, it is considered the proposed development will be an improvement to the current situation on the site and will significantly enhance the safety of the area.

### **3.4. Environmental Maintenance**

The image of an area can influence perceptions of safety and danger, and impact an individual's decision to engage with the community. The image of the interim and completed development can have a large impact on the overall level of real and perceived safety on the site. It can also affect the economic prosperity of areas and lessen the likelihood of visitors returning. Vandalism, graffiti and other crimes can induce fear and avoidance of public spaces, particularly amongst the elderly. As such, maintenance of the proposed development and its surrounds is a key crime prevention mechanism. The proposed development will provide a high quality urban environment which will convey a clarity of ownership and display a space that is well cared for.

As shown on the Architectural Plans prepared by Architectus, the proposed envelope provides a higher quality building than what has previously existed on the site. This in turn



provides the opportunity to act as a catalyst for environmental improvements to the surrounding public areas and provide the opportunity to reduce levels of graffiti, litter, and urban decay, which all negatively impact perceptions of safety; community confidence in using a public space; and crime opportunity.

The maintenance of an area encourages regular use, which in turn provides opportunities for natural supervision. It is recommended that a rapid removal policy should be in place for vandalism repair and the removal of graffiti and all public spaces should be kept clean and tidy. Further, high quality furniture, building materials and signage should be used to lessen the likelihood of damage and to help reduce maintenance costs.

### **3.5. Activity and Space Management**

The management of space and activity is important to maintaining control over a space and preventing incidents of crime. Space management relates to the supervision, control and the ongoing care of a development. Spaces that are infrequently used are known to experience crime and be the subject of abuse. Effective space management also encourages people to feel a shared responsibility for its use and condition.

The proposed development has given due consideration to activity and space management, with the various uses provided by the development clearly delineated by the architectural design of the building. The metro concourse occupies a central position along the primary street frontage and is clearly segregated from the surrounding uses by the proposed access arrangements which consist of ticket machines that limit entry to Sydney Metro patrons. Consequently, it is considered the proposed access arrangements clearly delineate the metro from the surrounding public domain.

The commercial, hotel and residential components of the development each have separate lobby areas, allowing for each space to be managed in accordance with its function. The hotel lobby occupies a substantial portion of the primary street frontage and given the nature of the use, will have extended operational hours that will allow it to be well lit during the day and night. This combined with the scale of the lobby along with the concierge desk positioned within clearly conveys that the space will operate in connection with the site's hotel use. The commercial and residential lobbies are accessible from the secondary street frontages via entrance points that occupy a limited extent of the building's frontage. The configuration of the entrances and their location provide for well-designated and controlled areas that convey clear cues that signify they are for private use.

Given the above, it is considered that the architectural design provides for clearly defined spaces, capable of being well managed and cared for in order to prevent incidents of crime.

### **3.6. Access Control**

Access control measures restrict and manage the activities of people and vehicles that move to and from the site. Access control measures constitute physical and symbolic barriers that

influence the way people navigate and use a space. They are also effective in increasing the length of time and effort it takes for a crime to be committed.

Access to the plant and services contained in the basement, and the loading and back of house facilities are recommended to be restricted to authorised personal. Access to these areas should be managed by a control strategy (i.e. card / key controlled entries / lifts and intercom systems) to prevent unauthorised access to these areas. Access to the hotel and commercial components of the development should also be restricted to employees and patrons, and managed using a control strategy.

Details of any workers or contractors accessing the site, including contact details and the time and date of access are to be maintained by the site manager. Likewise, vehicles entering / exiting the loading zone and the carparking areas within the OSD should be authorised and monitored by the dock manager.

It is recommended that a bollard / barrier system be installed at the entrance to the Metro Concourse to deter and prevent vehicle being used as weapons to injure and kill. This is also anticipated to enhance perceptions of safety for the public.

### **3.7. Design, Definition and Designation**

The design of the proposed development reflects its purpose, and while perpetrators will often exploit areas with unclear spatial definition, the design of the proposed development generally addresses multiple principles of CPTED. As mentioned above, the design provides for a clear separation of uses. To further delineate the varying uses provided by the development, it is recommended that clear signage to indicate entry points and facilitate wayfinding be provided to help convey how each space should be used. In particular clear wayfinding signage should be provided at the entrance points to the back of house facilities to prevent individuals of the public from inadvertently or intentionally accessing these spaces.

As the façade incorporates large areas of glazed fenestration and internal areas such as lobbies, concierge desks and staff offices are recommended to be positioned along or in proximity to the street frontages in order to maximise opportunities for natural surveillance through the provision of clear sightlines.

As stations are typically subject to higher levels of crime and attractive places for loitering, there is the potential for conflict to occur between patrons of the Sydney Metro and users of the immediate surrounds. For this reason, appropriate technical surveillance will be required throughout the interior and exterior of the development and should form part of a wider CCTV network. Recommendations are provided in Section 5.1.

## 4. Crime Risk Rating and Recommendation

The Crime Risk Rating considers the development as proposed in architectural drawings prepared by Architectus, acknowledging the existing and future site context along with the issues discussed in Section 2, 4, and 5, the Crime Risk Assessment Rating of the proposed development is rated within the 'moderate' category.

An assessment of the proposal using the CPTED principles has found that, with the implementation of the recommendations, the rating would still remain within the 'moderate' category. We note that this is a product of the dense urban environment rather than the design itself, and the design is considered generally consistent with the principles of CPTED.

The recommendations below however aim to further improve the safety and security of the proposed development.

### 4.1. Recommendations

#### 4.1.1. Surveillance

- Maintain sightlines to and from the proposed development and the surrounds by ensuring signage and equipment do not create a significant visual obstruction.
- Ensure circulation spaces are unobstructed by structures, to remove opportunities for concealment and ensure that pedestrians can move freely with clear sightlines of their surrounds.
- The gazed facades of the building at street level should be free of clutter and signage to allow sightlines between the development and the public domain.
- Ensure the concierge desk within the hotel foyer is clearly visible from the street frontage to assisting in maximising surveillance.

#### 4.1.2. Lighting and Technical Supervision

- A CCTV network is essential for the back of house areas and overall development. The CCTV network is to be designed in consultation with a suitably qualified security consultant with a Class 2A licence under the *Security Industry Act 1997* who can provide specific advice on the placement, installation, monitoring and maintenance of the CCTV network.
- The CCTV network should endeavour to ensure blackspots of coverage are not created.
- The CCTV network strategy should be partnered with the internal and external lighting strategy to ensure facial recognition is achieved in all lighting conditions and a minimum colour rendering index of 60 is achieved.
- Discrete CCTV systems such as small dome cameras are recommended.
- A lighting strategy should be developed by or in consultation with a suitably qualified and experienced lighting expert.

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### 4.1.3. Territorial Reinforcement

- Ensure public furniture is durable and of high quality design.
- Maintain that building entrances remain free of clutter to ensure entry points are highly visible from the street frontages.
- Provide signage within the concourse to direct pedestrian movements and deter loitering.
- Ensure that pathways within lobbies and corridors are unobstructed at all times to avoid blind spots.
- Provide wayfinding signage and building / business identification signage where appropriate to reinforce perceptions of safety and legibility.

### 4.1.4. Environmental Maintenance

- Ensure mechanisms are in place to facilitate the on-going maintenance of the building, including the implementation of a rapid removal policy for vandalism repair and the removal of graffiti.

### 4.1.5. Activity and Space Management

- Ensure business, building and wayfinding signage is appropriate to deter access to private spaces and direct pedestrian movements to desired locations.
- Maximise the inclusion of glazed facades with anti-graffiti coatings wherever possible to maximise lines of sight and mitigate the risk of damage.

### 4.1.6. Access Control

- Provide secure electronic access (card / key controlled entries / lifts etc.) to all private entrances of the building and lifts to facilitate in demarcating the residential and non-residential uses of the building and providing a delineation between public and private spaces.
- Install a security door at an appropriate location to prevent unauthorised individuals from entering the back of house areas from the loading dock.
- Install an appropriate bollard/barrier system at the main entrance to the Metro Concourse to prevent vehicles driving into this area. A security consultant with a Class 2A licence under the Security Industry Act 1997 is recommended to be engaged to provide specific advice on the type, placement and installation of this bollard/barrier system to ensure vehicles moving at high velocity cannot enter the main street level entry concourse area of the Metro Station.
- Ensure concierges / receptions and formal guardians occupy publicly accessible spaces such as the lobbies and the hotel foyer.

#### 4.1.7. Design, Definition and Designation

- Security and general station personal are advised to parole / occupy the metro concourse to minimise opportunities for anti-social behaviour.