Transport
for NSW

Central Precinct Renewal Program
Safety and Security Strategy

July 2022

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GOVERNMENT

Acknowledgement of Country

We respectfully acknowledge the Traditional Custodians of the Central Precinct, the Gadigal and recognise the importance of place to Aboriginal people and their continuing connection to Country and culture. We pay our respect to Elders past, present and emerging.
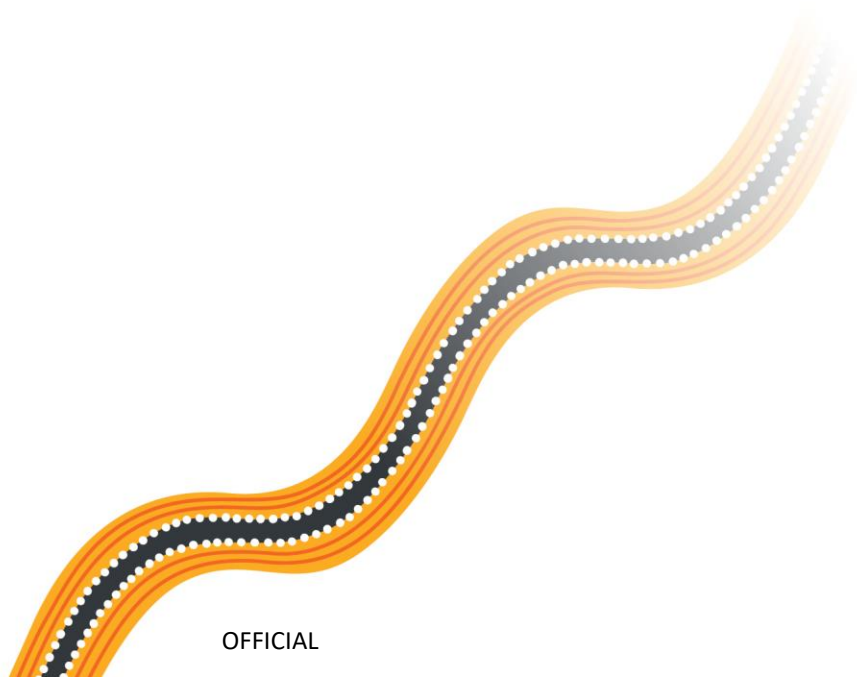
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Versions

Version	Amendment notes
0.1	Final for CPRP Public Exhibition 2022

Abbreviations

Abbreviation	Definition
ABS	Australian Bureau of Statistics
ANPR	Automated number plate recognition
ANZCTC	Australia-New Zealand Counter Terrorism Committee
ASB	Anti-social behaviour
BOCSAR	Bureau of Crime Statistics and Research (NSW)
CCTV	Closed-circuit television
CIV	Capital investment value
CoS	City of Sydney Council
CPTED	Crime Prevention through Environmental Design
D3R	Deter, detect, delay, respond model
DA	Development application
DCP	Development control plan
DOTL	Door open too long
DPE	NSW Department of Planning and Environment
EACAS	Electronic access control and alarm system
EKMS	Electronic key management system
EMPLAN	Emergency management plan (NSW)
EPI	Environmental planning instrument
ESRA	Event-specific security risk assessment
F&B	Food & Beverage
FRNSW	Fire & Rescue NSW
GANSW	Government Architect NSW
GCC	Greater Cities Commission (formerly Greater Sydney Commission)
GFA	Gross floor area
GUI	Graphical user interface
HVM	Hostile vehicle mitigation
ISHS	Inner Sydney High School
LEP	Local environmental plan
LGA	The City of Sydney local government area
NSWPF	New South Wales Police Force
NTAC	National Threat Assessment Centre
NTTAS	National Terrorism Threat Alert System

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Abbreviation	Definition
PA	Public address
PAC	Police Area Command
PBIED	Person-borne improvised explosive device
PRP	Project Review Panel
PTC	Police Transport Command (NSW)
PUDOs	Pick-up and drop-off spots
ROM	Regional and outer metropolitan communities
SCA	Special character area
SEPP	State Environmental Planning Policy
SES	State Emergency Services
SHS	Specialist Homelessness Service
SMP	Security management plan
SMS	Security management system
SRA	Security risk assessment
SSP	State Significant Precinct
ST	Sydney Trains
TfL	Transport for London
TfNSW	Transport for New South Wales
UNSW	University of New South Wales
UPS	Uninterrupted power supply
UTS	University of Technology, Sydney
VBIED	Vehicle-borne improvised explosive device
WSC	Women's Safety Charter (Greater Cities Commission)

Definitions

Term	Definition
Accessibility	The ability for everyone, regardless of age, disability or special needs or where they live, to use and benefit from the transport system
Amenity	The extent to which a place, experience or service is pleasant, attractive or comfortable. Improved features, facilities or services may contribute to increase amenity.
Central Precinct	Central Precinct State Significant Precinct
Central Sydney	Land identified as Central Sydney under the Sydney Local Environmental Plan 2012 and represents the Metropolitan Centre of Sydney. Central Sydney includes Sydney's Central Business District
Character	The combination of the attributes, characteristics and qualities of a place (GANSW, 2021, Draft Urban Design Guide)
Community	Particular types of stakeholder and refers to groups of people in particular places who are both affected by our work and experience the outcomes and benefits of our activities
Control	A numerical standard that is applied in a prescriptive manner
Corridor	A broad, linear geographical area between places
Council	The City of Sydney Council
Customers	Those who use transport networks and services. They include car drivers, heavy vehicle operators, public transport and point to point passengers, pedestrians, cyclists and freight and goods providers
Department	The Department of Planning and Environment
District Plan	means the Eastern City District Plan
Gateway	Cities that provide state level services and facilities to support a broad population catchment while also having international connections through their cities airport and/or port.
Goods Line	The official name for the partly elevated walkway from Central Station to Darling Harbour following the route of a disused railway line
Interchange	A facility to transfer from one mode of transport or one transport service to another. For example, a station with an adjoining light rail stop
Minister	The Minister for Planning
Mixed-use	A building or area containing more than one type of land use
Mobility	The ability to move or be moved easily and without constraints
Mortuary Station	The building formerly used as a railway station on the Rookwood Cemetery railway line, now disused
Objective	A statement of a desired future outcome, generally expressed in a qualitative manner that enables merit based assessment
Place	An intersection of transport infrastructure with social infrastructure and commercial activity. These are the areas within and around transit stops where people live and commute. Places can be created as an outcome of Placemaking

Term	Definition
Precinct	Geographical area with boundaries determined by land use and other unique characteristics. For example, an area where there is an agglomeration of warehouses may be termed a freight precinct
Proponent	Transport for NSW
Proposal	Proposed amendments to the planning framework
Provisions	means a broad term covering objectives and controls
Public spaces	means areas that are publicly accessible where people can interact with each other and make social connections
Rail network	means the rail infrastructure in NSW
Reference Master Plan	A non-statutory document that shows one way in which the precinct may develop in the future in accordance with the proposed amendments to the planning framework
	Note: Refer to the GANSW Advisory Note v2, dated 12/09/2018 for further guidance
Region Plan	The Greater Sydney Region Plan - A Metropolis of Three Cities
Siding	A short stretch of rail track used to store rolling stock or enable trains on the same line to pass
State	The state of New South Wales
State Significant Precinct	The areas with state or regional planning significance because of their social, economic or environmental characteristics
Strategic Framework	The document prepared by Transport for NSW for Central Precinct in 2021 that addresses key matters including vision, priorities, public space, strategic connections, design excellence, identify sub-precincts for future detailed planning and also outlines the next steps in the State Significant Precinct process for Central Precinct
Strategic plan	The regional strategic plan, district strategic plan or a local strategic planning statement
Sub-precinct	The definable areas within Central Precinct SSP due to its unique local character, opportunities and constraints, either current or future. The Western Gateway is a sub-precinct
Sydney Metro	A fully-automated, high frequency rail network connecting Sydney
Tech Central	The State government initiative as set out in The Sydney Innovation and Technology Precinct Panel Report 2018. Previously known as the Sydney Innovation and Technology Precinct. Tech Central is located south of the Sydney central business district, surrounded by the suburbs of Redfern, Ultimo, Haymarket, Camperdown, Chippendale, Darlington, Surry Hills and Eveleigh
Transport for NSW	The statutory authority of the New South Wales Government responsible for managing transport services in New South Wales.
Transport interchange	A facility designed for transitioning between different modes, such as a major bus stop or train station
Transport modes	The five public transport modes are metro, trains, buses, ferries and light rail. The two active transport modes are walking and cycling

Executive summary

This Central Precinct Renewal: Safety and Security Strategy ('the Strategy') was developed by Intelligent Risks (IR) on behalf of Arcadis and Transport for NSW (TfNSW) to address the State Significant Precinct (SSP) study requirements outlined by the NSW Department of Planning and Environment (DPE).

The Department recognises the need for a high-level Strategy which addresses crime and safety concerns for the Central Precinct, especially as it relates to vulnerable people, identified as women and girls, people with disabilities, the homeless, schoolchildren etc.

Sexual harassment and anti-social behaviour have repeatedly been identified as contributing to making Central Station one of the least safe locations in Sydney – whether actual or perceived. Key factors influencing a lack of actual and perceived safety at the current Central Precinct include:

- Personal factors (negative experiences, media reports, gender, and other personal attributes).

- Societal factors (crowding/desertion, bystander inaction, staff absence or inadequate training).

- Spatial and design factors (isolation, poor lighting, lack of maintenance, entrapment, open access for offenders).

- Threat factors (presence of unpredictable people, assumed intent and capability to cause harm).

In line with SSP requirements, this report has developed a holistic Strategy to address the diverse factors influencing the current Central Station environment and assess the Central Precinct's ability to become an inclusive and safe environment.

The Central Precinct is a major crowded place and piece of critical infrastructure for Sydney and NSW. Its unique risk profile requires comprehensive mitigation strategies against acts of terrorism, crime, antisocial behaviour, disruptive protests, self-harm and other related events.

High-level recommendations within this Strategy include the implementation of:

- Protective security controls

  o Design controls (physical application of Crime Prevention Through Environmental Design (CPTED) principles, duress and help points, Closed-Circuit Television (CCTV) and video analytics, lighting, electronic and mechanical access control, perimeter barriers and vehicular controls, intrusion detection and alarm, control rooms, and blast mitigation).

  o Operational controls (security management, risk management, command and control, resilience, communications, staffing and patrolling, incident reporting, event management, and construction phase security).

- Community / societal safety measures

  o Public safety initiatives (anti-sexual harassment campaigning, alcohol and drug-free zoning, volunteer care programmes, local business crime and anti-social behaviour programmes).

- o Social CPTED (social cohesion, community connectivity, community culture, threshold capacity).

The report aims to provide a comprehensive strategy for safety and security of all Central Precinct users and staff. Special consideration has been given to advising how the future design of Central Precinct can alleviate safety concerns for vulnerable people. This Strategy shall inform detailed safety and security planning for subsequent design and operational stages of Central Precinct development.

1.   Introduction

Located within the heart of Eastern Harbour City, Central Precinct is Australia's busiest transport interchange. The precinct currently holds latent potential with all its inherent advantages of location and transport connections to revitalise Central Sydney. Capitalising on Central Precinct's prime location within Tech Central, a NSW Government commitment to create the biggest technology hub of its kind in Australia, Central Precinct presents the ultimate transformative opportunity to deliver a connected destination for living, creativity and jobs. The renewal of Central Precinct will provide a world-class transport interchange experience, important space for jobs of the future, improved connections with surrounding areas, new and improved public spaces and social infrastructure to support the community.

1.1   Tech Central

1.1.1   Overview

The NSW Government is committed to working with the local community to develop the biggest innovation district of its kind in Australia. Bringing together six neighbourhoods near the Sydney CBD (Haymarket, Ultimo, Surry Hills, Camperdown, Darlington North Eveleigh and South Eveleigh), Tech Central is a thriving innovation ecosystem that includes world-class universities, a world-leading research hospital, 100 + research institutions, investors and a wide range of tech and innovation companies. The vision for Tech Central is for it to be a place where universities, startups, scaleups, high-tech giants and the community collaborate to solve problems, socialise and spark ideas that change our world. It is also for it to be place where centring First Nations voices, low carbon living, green spaces, places for all people and easy transport and digital connections support resilience, amenity, inclusivity, vitality and growth.

Tech Central is an essential component of the Greater Sydney Region Plan's Eastern Harbour City Innovation Corridor. It aims to leverage the existing rich heritage, culture, activity, innovation and technology, education and health institutions within the precinct as well as the excellent transport links provided by the Central and Redfern Station transport interchanges.

The Central Precinct is located within the Haymarket neighbourhood of Tech Central. Planned to become the CBD for Sydney's 21st century, this neighbourhood is already home to The Quantum Terminal (affordable coworking space in the iconic Central Station Sydney Terminal Building) the Scaleup Hub (affordable and flexible workspace for high-growth technology scaleups) and is soon to be the home of Atlassian's headquarters. It is also in close proximity to a number of important education and research institutions.

The planned urban renewal of the Central Precinct has been identified as a key project to achieving the vision for Tech Central.

1.1.2   Background & Context

In August 2018, the NSW Government established the Sydney Innovation and Technology Precinct Panel (the Panel) comprising representatives from various industry, health, education, government agencies and key community members. In December 2018 'The Sydney Innovation and Technology Precinct Panel Report' was produced, setting out the Panel's recommendations for a pathway to delivering a successful innovation and technology district at Tech Central. In February 2019, the NSW Government adopted the Panel's report and committed to delivering the following:

- 25,000 additional innovation jobs
- 25,000 new STEM and life sciences students
- 200,000 m² for technology companies, and
- 50,000 m² of affordable space for startups and scaleups

In February 2019, the Greater Sydney Commission released a Place Strategy for the area that is now known as Tech Central (Camperdown-Ultimo Collaboration Area Place Strategy, GSC). The Place Strategy, developed collaboratively by a range of stakeholders involved in planning for Tech Central's future, was prepared to inform public and private policy and investment decisions by identifying and recognising the complex, place-specific issues inhibiting growth and change. The strategy identifies shared objectives for the place and sets out priorities and actions to realise the vision for the area under the key themes of Connectivity, Liveability, Productivity, Sustainability and Governance.

Both the Panel Report and Place Strategy recognise the importance of the Central Precinct to Tech Central's future.

In July 2019, Central Precinct was declared a nominated State Significant Precinct (SSP) in recognition of its potential to boost investment and deliver new jobs. The SSP planning process for Central Precinct will identify a new statutory planning framework for Central Precinct. This involves two key stages:

- **Stage 1**: Development of a draft Strategic Vision which has since evolved into the Central Precinct Strategic Framework

- **Stage 2**: Preparation of an SSP study with associated technical analysis and community and stakeholder consultation.

In March 2021, the Central Precinct Strategic Framework was adopted representing the completion of Stage 1 of the planning process to develop a new planning framework for Central Precinct. The Strategic Framework outlines the vision, planning priorities, design principles, and the proposed future character of sub-precincts within Central Precinct. This is intended to inform and guide further detailed planning and design investigations as part of this SSP Study (Stage 2 of the SSP planning process).

This SSP Study intends to amend the planning controls applicable to Central Precinct under the SSP SEPP 2005 to reflect the vision and planning priorities set for the Precinct under the Strategic Framework. Study Requirements were issued in December 2020 to guide the investigations and the proposed new planning controls.

1.2   Central Precinct vision

Central Precinct will be a vibrant and exciting place that unites a world-class transport interchange with innovative and diverse businesses and high-quality public spaces. It will embrace design, sustainability and connectivity, celebrate its unique built form and social and cultural heritage and become a centre for the jobs of the future and economic growth.

1.3   Case for change

Over the coming years, Central Station will come under increasing pressure as technological innovations progress, investment in transport infrastructure increases and daily passenger movements increase.

Sydney Metro, Australia's biggest public transport project, will result in the delivery of a new generation of world-class, fast, safe, and reliable trains enabling faster services across Sydney's rail network. In 2024, Sydney Metro's Central Station will open with daily passenger movements forecast to increase from 270,000 persons to 450,000 persons over the next 30 years.

In its current state, Central Station is underperforming as Australia's major transport interchange – it's currently a hole in the heart of Sydney's CBD, lacking connectivity, activation and quality public spaces.

The renewal of Central Precinct will expand and revitalise Central Station, and transform this underutilised part of Sydney from a place that people simply move through to one where they want to visit, work, relax, connect and socialise. Its renewal also presents the potential to deliver on the strategic intent and key policies of regional, district and local strategic plans, providing for a city-shaping opportunity that can deliver economic, social and environmental benefit. Specifically, it will:

- make a substantial direct and indirect contribution to achieving the Premier's Priorities by facilitating upgrades to Sydney's largest and most significant public transport interchange, improving the level of service for users and visitors, and supporting the creation of new jobs and housing

- implement the recommendations of the NSW State Infrastructure Strategy 2018-2038, in particular the upgrading of the major transport interchange at Central to meet future customer growth

- contribute to key 'Directions' of the Greater Sydney Region Plan, to deliver 'a city supported by infrastructure', help create 'a city of great places', support 'a well connected city', deliver new 'jobs and skills for the city' and create 'an efficient city'

- implement the outcomes envisaged within the Eastern City District Plan including reinforcing the Harbour CBD's role as the national economic powerhouse of Australia and supporting its continued growth as a Global International City

- deliver on the shared objectives and priorities for Tech Central, the future focal point of Sydney's innovation and technology community, which aims to boost innovation,

economic development and knowledge intensive jobs while creating an environment that fosters collaboration and the exchanging of ideas

- deliver an outcome that responds to the overarching vision and objectives of the Central Sydney Planning Strategy. In particular it will assist with implementing a number of 'key moves' outlined in the strategy, including to 'ensure development responds to its context', 'ensure infrastructure keeps pace with growth', 'move people more easily', 'protect, enhance and expand Central Sydney's heritage, public places and spaces', and to 'reaffirm commitment to design excellence.'

1.4 About this report

The purpose of this report is to provide a high-level safety and security assessment of the proposed changes, and consider any potential impacts that may result within and surrounding the Central Precinct. This report addresses study requirement 1.3_I Safety and Security Strategy. The relevant study requirements, considerations and consultation requirements, and location of where these have been responded to is outlined in **Table 1** below.

1.4.1 SSP Study requirements

Table 1: Study requirements, considerations, and consultation requirements

Ref	Requirement or consideration	Summary response	Where addressed
Study requirement			
1.3_I	Includes a high-level **safety and security strategy** that outlines how potential future crime and safety risks in relation to the development will be addressed.	This study fulfils this requirement. Safety and security risks, including crime, have been assessed and a strategy addressing these issues at Central Precinct developed.	The entire report.
1.3_I	Strong emphasis should be placed on developing actions in the strategy that address the most vulnerable people who use Central Station i.e. women and girls, people with disabilities, the homeless, schoolchildren etc, and enabling 24/7 use of the precinct.	Extensive research and consultation with vulnerable groups informed this strategy. Collected evidence has specifically informed the development of a model outlining factors contributing to perceptions of safety for vulnerable groups. A comprehensive set of strategic-level recommendations was developed based on this 'perception of safety model' to embed safety and security in Central Precinct design and operational planning, with particular regard to the most vulnerable Precinct users.	Chapter 2 and Chapter 3 address this matter. Section 3.2.4 specifically models factors influencing perceptions of safety for vulnerable groups.
1.3_I	The Strategy should have regard to Crime Prevention through Environmental Design (CPTED) guidelines and integrate closely with other studies.	A comprehensive physical CPTED assessment of the Central Precinct masterplan was conducted as part of this report. Recommendations for further Central Precinct design and operational planning have been made. This report refers to other social studies, including the Social Infrastructure report, with regard to wider social CPTED considerations.	Section 3.1.1 outlines CPTED methodology and principles. Appendix D contains the detailed CPTED assessment. Section 3.4.3 provides physical CPTED recommendations.

Ref	Requirement or consideration	Summary response	Where addressed
Study consideration			
1.3_S	The safety and security of vulnerable groups, particularly of women and girls, noting evidence that the area is or is perceived to be unsafe (Free to Be, Monash University and Plan international).	This report has reviewed extensive evidence that Central Station is currently unsafe, whether perceived or real. Documentation and consultation have informed the risk assessment and subsequent development of mitigation recommendations.	Section 3.2 addresses this study consideration
1.3_S	Any public domain, open space or publicly accessible private spaces proposed should ensure that the highest safety standards can be met in future stages of development. These safety standards should be informed by design principles and incorporated into any design guide / development control plan to increase both the safety of the most vulnerable people who use Central Station (i.e. women and girls, people with disability, the homeless, schoolchildren etc) and the perception of safety, including but not limited to: • Fundamental design to create feelings of safety and security and attract diverse groups to use the space 24/7 with confidence; • Ensuring the built environment allows for comfortable lines of sight, continuous safe pathways through places, avoidance of blinds spots, good legibility and wayfinding and allowing access to facilities and places of refuge; and • Ensuring the built environment is safe and perceived to be safe day and night.	The proposed Central Precinct design is assessed to greatly mitigate current safety and security issues around Central Station, especially pertaining to the safety, perceived and/or real, of vulnerable users. Additional strategic-level recommendations for protective security measures and safety initiatives are included in this report.	Appendix D and Chapter 3 address this study consideration.
1.3_T	Consideration of collected evidence indicating the severity of incidents women and girls experience (and any other vulnerable groups) in the area and how these incidents can be decreased by the design of the built environment and renewal of the precinct.	The experiences of women and girls at and around Central Station were considered through extensive document review and consultations. This evidence has informed the Summary Security Risk Assessment underpinning the recommendations developed in this report.	Section 3.2.1 Summarises key findings from collected evidence indicating the experiences of young women and girls at Central Station. Appendix D includes a detailed assessment of the Central Precinct masterplan mitigating safety and security risks for women and girls
Consultation			
	Given the importance of safety and security in the renewal of Central Precinct, it is recommended that specific consultation be undertaken with vulnerable groups. In particular, the renewal of Central Precinct is an opportunity to address safety and	Consultation has occurred with: • Transport for NSW: Security, Crisis and Emergency Management Branch	Chapter 2 addresses this matter

Ref	Requirement or consideration	Summary response	Where addressed
	security issues associated with girls and young women using the area. Specific consultation should be undertaken with girls and young women including a typical range of potential users. Consultation should ensure that girls and young women from different economic backgrounds, races, abilities and identities are considered. Acknowledging that girls and young women commonly experience harassment in public spaces from the age of 11 to 33, consultation working groups should include girls and young women (18-33 years old) from, but not limited to: • High Schools and Universities in the vicinity of the location; • Workplaces in the vicinity of the location; • Girls travelling from regions who are less frequent or familiar users of the space; • Consultation should also occur with safety place design experts and the Greater Sydney Commission's Sydney Women's Safety Charter Working Group.	• New South Wales Police Force: Surry Hills Police Area Command • New South Wales Police: Public Transport Command • City of Sydney Council: security and safety by design • The NSW Department of Planning and Environment • Greater Cities Commission • Inner Sydney High School • XYX Labs, within Monash University • Homelessness NSW, Mission Australia, and Haymarket Foundation • Greater Cities Commission: Youth Panel workshop • TfNSW LGBTQIA+ network survey • Greater Cities Commission: Women's Safety Charter	
Author			
	The public domain, place and urban design studies are to be prepared by suitably qualified urban and landscape design professional(s) with the necessary experience and expertise to undertake the required work.	This Safety & Security Study has been prepared by appropriately qualified and experienced experts. Intelligent Risks (IR) holds a NSW Security Master Licence and the principal author holds a current NSW Security Consultant licence. This report has been authored by: Andrew McWhinney (Security Consultant – Manager NSW & ACT) and Ben Waldner (Analyst)	
Guidance documents			
	The following documents provide guidance for this Study: • Central Precinct Strategic Framework, TfNSW 2020 • Central Station Precinct Renewal: Vision and Strategic Framework Study (GANSW for TfNSW, 2018); • Draft Central Sydney Planning Strategy and draft DCP; • City of Sydney Open Space, Sports and Recreational Needs Study (CoS, 2016); • City of Sydney Public Art Strategy; City of Sydney Art Policy; • Interim Guidelines for Public Art in Private Developments (City of Sydney); • Transport for London Pedestrian Comfort Guidance Tool; • Green Cover Technical Guidelines (NSW Government);	The Study has considered and placed specific focus on the following guidance documents suggested by the SSP requirements: • Central Precinct Strategic Framework, TfNSW 2020 • Central Station Precinct Renewal: Vision and Strategic Framework Study (GANSW for TfNSW, 2018); • Draft Central Sydney Planning Strategy and draft DCP; • City of Sydney Community Safety Action Plan (2019-2023); • A City for All – towards a socially just and resilient Sydney (City of Sydney); • Free to Be Sydney Map Plan International Australia;	Section 3.1.6 introduces relevant safety and security guidelines Appendix C provides a comprehensive overview of relevant standards and guidance used.

Ref	Requirement or consideration	Summary response	Where addressed
	• Draft Greener Places (Government Architect NSW);	• Safe Public Transit principles UN Women;	
	• Better Placed (Government Architect NSW);	• Making Cities Safer for Girls and Women ARUP;	
	• District and regional Plan Strategies and actions on open space;	• Lighting Cities, Monash University; Unsafe in the City Plan International Australia;	
	• Sydney Green Grid: Spatial Framework and Project Opportunities prepared by Tyrrell Studio for DPIE in association with NSW Office of Government Architect (2017);	Additional guidance documents listed in the Study Consideration have been reviewed, in addition to a range of other relevant documents not listed.	
	• Sydney Development Control Plan 2012;		
	• City of Sydney public domain codes including: Streets Code and Technical		
	• Specifications, Legible Sydney Wayfinding Strategy and Design Manual, Street Tree		
	• Masterplan, Urban Forest Strategy;		
	• City of Sydney Community Safety Action Plan (2019-2023);		
	• Guidelines for Acquisitions and Deaccessions (City of Sydney);		
	• Evaluating Good Design Guideline (Government Architect NSW);		
	• Implementing Good Design (Government Architect NSW);		
	• Government Architect NSW Advisory Notes;		
	• A City for All – towards a socially just and resilient Sydney (City of Sydney);		
	• State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development;		
	• Apartment Design Guide;		
	• GANSW Advisory Note on Design Excellence;		
	• Designing with Country, discussion paper prepared by GANSW (2020);		
	• The Sydney Innovation and Technology Precinct Panel Report (2018);		
	• Free to Be Sydney Map Plan International Australia;		
	• Safe Public Transit principles UN Women;		
	• Making Cities Safer for Girls and Women ARUP;		
	• Lighting Cities, Monash University; Unsafe in the City Plan International Australia; and		
	• Designing with Country Discussion Paper (GANSW).		

1.5 Study Area

Central Precinct is located at the south-east edge of Central Sydney (refer to **Figure 1**). Central Precinct is surrounded by a number of suburbs including, Haymarket to the north, Chippendale to the south and Surry Hills to the south-east. It is located within the City of Sydney local government area (LGA) with an approximate gross site area of 24 hectares of Government owned land. The precinct comprises land bounded by Pitt Street and Regent Street to the west, Cleveland Street to the south, Eddy Avenue, Hay Street and Goulburn Street to the north and Elizabeth Street and Chalmer Street to the east.

Central Precinct has been an important site for transport operations for over 150 years. Today, Central Station is Australia's busiest transport interchanges and is the anchor of New South Wales's (NSW) rail network. It provides 24 platforms for suburban and Intercity and Regional train connections as well as a direct link to Sydney Airport. The broader transport interchange also caters for light rail, bus, coach and point to point connections such as taxis. The transport interchange will also form part of the Sydney Metro network, with new underground platforms to be provided for Sydney Metro services under Platform 13, 15 and 16 at Central Station. Sydney Metro services will begin in 2024. The precinct also comprises several significant heritage items including the state-heritage listed Sydney Terminal Building and the Clock Tower.

Figure 1: Location plan of Central Precinct

As part of the Strategic Framework, eight sub-precincts have been defined that reflect and positively respond to the varying character of the surrounding areas. These sub-precincts are:

- Central Station

- Northern Over Station Development

- Western Gateway

- Regent Street Sidings

- Southern Over Station Development

- Prince Alfred Sidings

- Eastern Gateway

- Goulburn Street.

The location of these sub-precincts and relevant boundaries is illustrated in **Figure 2**.

Figure 2: Central Precinct and sub-precincts
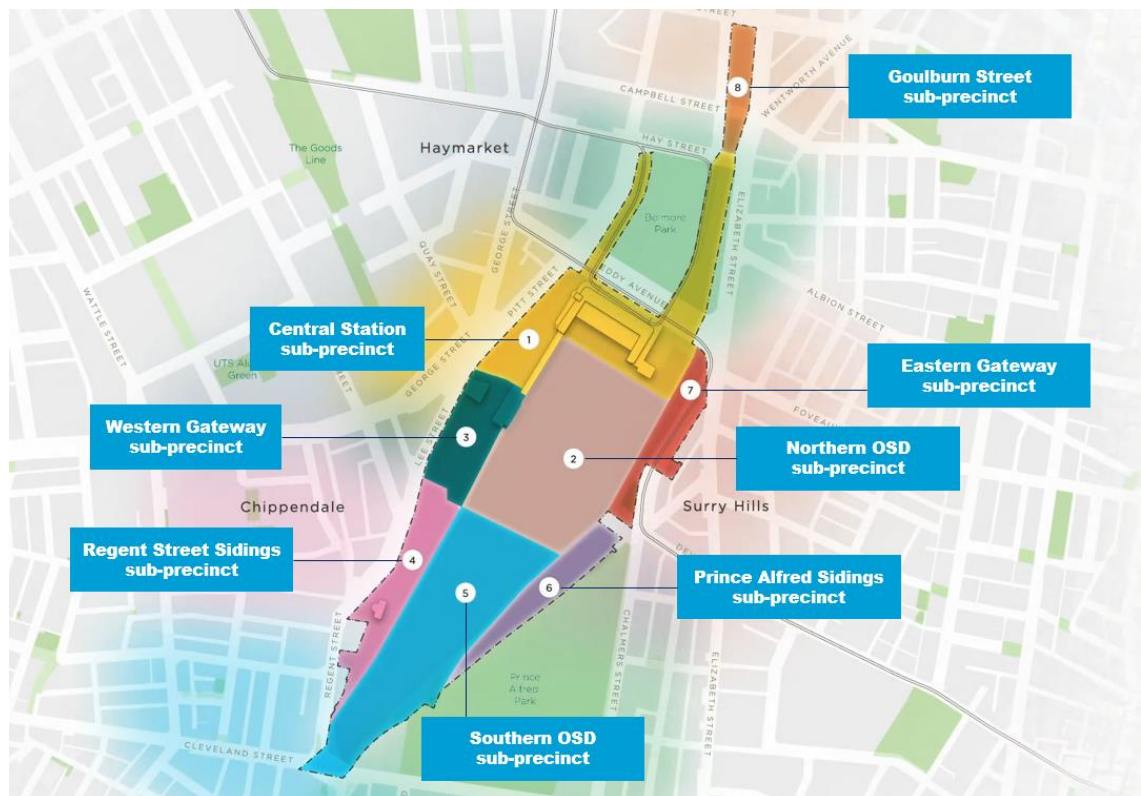
1.5.1 Planning priorities

To help realise the vision of Central Precinct and the desired local character of the sub-precincts, the following planning priorities have been developed and are grouped into five key themes as outlined in **Table 2** below.

Table 2: Central Precinct planning priorities

Theme	Planning priorities
Place and destination	• Unite the city by reconnecting with the surrounding suburbs • Shape a great place that is vibrant, diverse, active, inclusive and has a high level of amenity • Deliver a precinct which responds to its urban context and embeds design excellence Improve existing and providing additional connected public space in the precinct of high environmental amenity and comfort • Protect and celebrate the Precinct's heritage values • Create a people focussed precinct through a focus on public transport, cycling and walkability • Facilitate the precinct's focus on transport and economic diversity in tourism and across commercial sectors including office, business and retail.
People and community	• Design public spaces that promote health, equality and well-being • Promote social cohesion by providing spaces for gathering, connection, exchange, opportunity and cultural expression • Honour and celebrate the cultural heritage and identity of the Precinct's past and present Aboriginal community • Create a safe and intuitive precinct that promotes social access and inclusion • Support programs and initiatives that benefit communities and people • Create a precinct that responds to the current and future needs of transport customers, workers, residents and visitors, including those of the broader local community.
Mobility and access	• Provide a world class, integrated and seamless transport interchange • Maintain the precinct's role as NSW's main transport interchange • Improve the transport customer experience, including wayfinding, pedestrian flows and interchange between different transport modes • Facilitate and enhancing connections within and towards key locations in southern Central Sydney • Deliver a people focussed precinct that is walkable, well connected, safe and puts people first • Design infrastructure that will adapt to future changes in transport and mobility.
Economy and innovation	• Advance Sydney's status as a global city • Support the creation of jobs and economic growth including new and emerging industries such as innovation and technology and explore the provision of space for cultural and creative uses and start-ups • Provide an active and diverse commercial hub with a rich network of complementary uses that nurture and support business • Support both the day and night economies of the precinct through diverse complementary uses, promoting liveability and productivity • Foster collaboration between major institutions in the precinct including transport, education, health and business • Create a smart precinct that incorporates digital infrastructure to support research and innovation.

Theme	Planning priorities

1.5.2   Reference Master Plan

Architectus and Tyrrell Studio have prepared a Place Strategy, Urban Design Framework and a Public Domain Strategy which establishes the Reference Master Plan for Central Precinct. The Urban Design Framework and Public Domain Strategy provides a comprehensive urban design vision and strategy to guide future development of Central Precinct and has informed the proposed planning framework of the SSP Study.

The Reference Master Plan includes:

- Approximately 22,000 sqm of publicly accessible open space comprising:

    o Central Green – a 6,000 square metre publicly accessible park located in immediately south of the Sydney Terminal building

    o Central Square – 7,000 square metre publicly accessible square located at the George Street and Pitt Street junction

    o Mortuary Station Gardens – a 4,470 square metre publicly accessible park (excluding Mortuary Station building) located at Mortuary Station

    o Henry Deane Plaza – a publicly accessible plaza located in the Western Gateway sub-precinct

    o Eddy Avenue Plaza – a 1,680 square metre publicly accessible plaza located in the north-eastern portion of the Sydney Terminal building

    o Western Terminal Extension Building Rooftop - a 970sqm publicly accessible space above the Western Terminal Extension Building Rooftop.

- Approximately 269,500 square metres of office gross floor area (GFA)

- Approximately 22,850 square metres of retail GFA

- Approximately 53,600 square metres of hotel GFA

- Approximately 84,900 square metres of residential accommodation GFA, providing for approximately 850 dwellings (assuming 1 dwelling per 100sqm GFA). The Central Precinct SSP Study will include the commitment to deliver 15 percent of any new residential floor space as affordable housing.

- Approximately 47,250 square metres of education/tech space GFA

- Approximately 22,500 square metres of student accommodation GFA

- Approximately 14,300 square metres of community/cultural space GFA.

The key features of the Indicative Reference Master Plan, include:

- A network of new and enhanced open spaces linked by green connections. This will include:

- A Central Green (Dune Gardens) at the north of Central Precinct that will create a new civic public realm extension of the Sydney Terminal building and a new vantage point for Central Sydney

- A new Central Square which will deliver on the vision for a new public square at Central Station, as one of three major public spaces within Central Sydney connected by a people-friendly spine along George Street

- Mortuary Station Park at Mortuary Station that will be a key public domain interface between Chippendale and the over-station development. that will draw on the story of Rookwood Cemetery and the Victorian Garden context with the established rail heritage of the Goods Line and the rail lines

- Henry Deane Plaza which will prioritise the pedestrian experience, improving connectivity and pedestrian legibility within the Western Gateway sub-precinct and provide clear direct links to and from the State heritage listed Central Station and its surrounds

- Eddy Avenue Plaza – will transform into a high-amenity environment with significant greening and an enhanced interface with the Sydney Terminal building.

- A new network of circulation that will establish a clear layer of legibility and public use of the place. This will include:

  - A 15 - 24 metre wide Central Avenue that is laid out in the spirit of other street layouts within Central Sydney and which responds to the position of the Central clocktower, providing new key landmark views to the clocktower. Central Avenue will be a place for people to dwell and to move through quickly. It brings together the threads of character from the wider city and wraps them

  - Three over-rail connections to enhance access and circulation through Central Precinct, as well as provide pedestrian and bicycle cross connections through the precinct

  - The extension of public access along the Goods Line from Mortuary Station Gardens, offering a new connection to Darling Harbour

  - New vertical transportation locations throughout the precinct allowing for seamless vertical connections.

  - An active recreation system supports health and well-being through its running and cycling loops, fitness stations, distributed play elements, informal sports provision, and additional formal recreation courts.

  - a network of fine grain laneways that are open to the sky

The proposed land allocation for Central Precinct is described in **Table 3** below.

Table 3 Breakdown of allocation of land within Central Precinct (note: below figures, except for total Central SSP area, excludes WGP)

Land allocation	Proposed
Open-air rail corridor	101,755 sqm
Developable area	119,619 sqm
Public open space	19,185 sqm / 16% of Developable area

Land allocation	Proposed
Other publicly accessible open space (Including movement zones, streets and links)	41,773 sqm / 35% of Developable area
Building area	58,661 sqm / 49% of Developable area
Central SSP total area (incl. WGP)	**23.8 ha**

The Indicative Reference Master Plan for Central Precinct is illustrated in **Figure 3** below.

Figure 3: Reference Master Plan

Sub-precinct		Total GFA per sub-precinct (sqm)*
S	Station (terminal building)	15,800
		15,800
A	OSD Block A	165,400
	A1	66,900
	A2	48,900
	A3	39,400
	A4	4,100
	A5	3,000
	A6	3,100
B	OSD Block B	88,900
	B1	42,700
	B2	37,200
	B3	4,000
	B4	5,000
C	OSD Block C	109,700
	C1	32,700
	C2	28,500
	C3	42,800
	C4	3,400
	C5	2,300
D	Regent Street Sidings Block D	65,000
	D1	33,300
	D2	31,700
E	Prince Alfred Sidings Block E	20,900
F	Goulburn St Car Park	49,200
	Total GFA (excluding Western Gateway)	514,900
WG	Western Gateway	275,000

Source: Architectus and Tyrrell Studio

2. Consultation

Consultation is a core requirement of the State Significant Precinct (SSP) study commissioned by the Department of Planning and Environment (DPE) and forms a vital part of understanding the impacts of Central Precinct's environment on the safety and security of vulnerable groups.

Mass transit hubs act as nexuses for multiple operators, authorities and organisations with their own security interests and priorities. As public-serving locations, often centrally located, their interface with local communities and services to those communities brings them to the attention of specific community groups. This has been highlighted by the specific mention of the impact on vulnerable groups in the Central Precinct SSP study requirements laid out by DPE. The Central Precinct Renewal program goes further, not just improving the existing station and surrounds but providing substantial new facilities integrated within Central Precinct. This introduces further user groups and operators beyond that of a major transportation hub.

As part of the Safety and Security Strategy ('the Strategy) development process, Transport for New South Wales (TfNSW) has sought to engage with the safety and security stakeholders currently operating in and influencing Central Precinct as well as those planned to factor into the future use of the space.

2.1 Transport for NSW – Security, Crisis and Emergency Management Branch

Intelligent Risks conducted virtual stakeholder consultation with Simon Carroll and Sean Marasha from TfNSW Security on 12 January 2022 with the following guidance provided:

- The basis for the Central Precinct security design shall be consistent with the principles and standards contained in:

    o   Australia's Strategy for Protecting Crowded Places from Terrorism and related guidelines.

    o   Security Legislation Amendment (Critical Infrastructure) Act 2021.

    o   TfNSW security standards (T MU SY 20001 ST; T MU SY 20001 ST).

- Precinct design shall specifically consider:

    o   Coordinated incident and emergency management across the precinct, with a key role to be fulfilled by the rail operator.

    o   Management of major events at the Central Precinct or for which Central Station has a significant role as a transport hub.

    o   Resilience to Improvised Explosive Device events to ensure continuity of rail operations.

- Acknowledging Central Precinct is a large multi-use precinct, the design shall prioritise the security and resilience of its core function as one of Sydney's largest and iconic transport hubs.

*Relevance to the study: The stated principles and guidelines have been considered in the methodology of this report. High-level emergency management and blast analysis considerations have been included in the recommendations in **Chapter 3**.*

2.2   New South Wales Police Force – Surry Hills Police Area Command

Intelligent Risks conducted a virtual stakeholder consultation with Inspector Michael Fuller from the Surry Hills Police Area Command (PAC) on 12 January 2022 with the following key points relevant to this study:

- Policing of Central Station is jointly completed by Surry Hills PAC and Police Transport Command (PTC). The terminal building line demarks the area of responsibility of the two commands, with coordination of issues and incidents occurring where the sources and impacts are wide in nature.

- Consistent with the NSW Government approach, PAC and PTC do not interfere with the homeless population in the area around Central Precinct unless it relates to potential or actual activity of a criminal nature. PAC does not see significant levels of interaction between homeless and pedestrians or commuters.

- The perception of Central Precinct being an unsafe area is not necessarily reflected in crime statistics. Surry Hills has become more gentrified with an attendant reduction in crime levels. Public order issues and incidents of stealing from retail stores occur at night but are not above-average levels seen for high-density urban environments. However, PAC noted that in the hours after most businesses cease operations, Central Precinct does generate a feeling of being a no-go zone (due to the absence of activity and lower levels of natural surveillance).

- The Station is used by PAC and PTC to funnel or direct people from events or demonstrations out of Sydney Central Business District (CBD), so the site can be a hub for unauthorised protests and activities.

- It will be important to understand pedestrian 'desire lines' and movement flows to assist with security measures and policing of Central Precinct. Current Closed-Circuit Television (CCTV) and lighting levels in the areas surrounding Central Station are adequate from a policing standpoint and should be retained or enhanced.

Relevance to the study: NSWPF input on crime at Central Station has been considered as part of the summary security risk assessment. Event management, CCTV, and lighting have been addressed in **Chapter 3**.

2.3   Sydney Trains – Protective Security

Intelligent Risks conducted virtual stakeholder consultation with Mark Edmonds from the Sydney Trains (ST) Protective Security section on 17 January 2022. The following key points are noted for this study:

- The overall renewal of the Precinct is seen as alleviating some concerns Sydney Trains has with the current Central Station, including controlling access to the rail corridor and yards, and persistent graffiti/vandalism issues.

- Homeless persons in the area will usually use cheap hostels for winter accommodation and will tend to stay close to police stations for protection.

- The presence of an Indigenous community at the Western Forecourt should be considered in redevelopment plans. Previous projects have attempted to include the indigenous community in the new development (e.g. through an invite to complete artwork on a dedicated section).

- Anti-climbing measures are a requirement for bridges traversing train tracks for suicide prevention. There is a highly disruptive impact on service delivery and financial loss should a suicide occur from an elevated position onto electrified tracks. This has been included as a hazard in the summary Security Risk Assessment.

- Several vulnerable areas have been identified:

    o Prince Alfred Portal which gives access to the Airport Line

    o Goulburn Street Portal at the current carpark and potentially the site for two Central Precinct buildings north of Belmore Park

- Sydney Trains should be integrated into the wider operational management of Central Precinct, with extensive coordination between Sydney Trains, precinct management and other security stakeholders at the site.

- Stakeholders located in the surrounding area may need to undertake corresponding security enhancements to appropriately interface with Central Precinct safety and security measures and ensure uninterrupted coverage of approaches and transport-adjacent areas.

Relevance to the study: ST input on suicide risks and anti-climbing provisions have been included in the summary security risk assessment and CPTED assessment. ST involvement in future precinct operational security planning and Central Precinct interaction with surrounding stakeholders have been included in the recommendations of this report.

2.4   City of Sydney Council – security and safety by design

Intelligent Risks, in coordination with the TfNSW engagement/communications team, conducted a virtual stakeholder meeting with David Cornett and Rebecca Martin from the City of Sydney Council (Council) on 1 February 2022. The following key points raised by Council are relevant to this study:

- Council reiterated concerns regarding the current safety and security environment at Central Station, in particular as it affects women and girls. The aim of the Central Precinct should be to create an environment where everyone feels welcome.

- Council is aware of issues surrounding rough sleepers and indecent public exposure at Belmore Park and has CCTV installed in that area.

- The emphasis for Central Precinct should be to design-in user groups, including rough sleepers, as opposed to designing out specific groups as everyone has the right to use and be at the Precinct (example of compartments in public domain street furniture to be used as storage facilities by rough sleepers or the integration of First Nations artwork).

- Council provided further information on the Take Kare program in the CBD, including the use of safe spaces, incident response, and contact with emergency services.

- Council has worked together with the GSC Women's Charter to explore ways to create a safer environment for women and girls in the public built environment (examples of video analytics to detect anti-social behaviour or GIS-based mapping tools). This is a complex problem to solve and several initiatives and been tried and failed to provide practical applicability and impact on the reduction of unwanted behaviour.

- Council suggested managing community expectations in terms of the ability to solve all social and safety issues surrounding the Precinct immediately. Further consideration should be given to the subjectivity of personal experiences.

- Council provided contacts for further consultation and workshops.

*Relevance to the study: Council considerations on rough sleepers, CCTV, safe spaces, and the Take Kare program have been included in the recommendations in **Chapter 3**. Council advice on the complexity of social issues surrounding rough sleepers and safety by design for vulnerable groups has been noted and relayed in this report.*

2.5   Department of Planning and Environment

On 14 February 2022, IR presented the methodology and initial consideration of the Safety and Security Strategy to representatives of the Department for Planning and Environment (DPE) as part of a wider workshop including other Central Precinct renewal study areas.

The DPE representatives were accepting of initial thoughts and considerations surrounding this report. A suggestion for further document review included the Barangaroo Place Activation Framework, available through Infrastructure NSW.

2.6   Greater Cities Commission

On 31 January 2022, IR participated in a wider Transport for NSW presentation of social issues surrounding the Central Precinct to the Greater Cities Commission (formerly Greater Sydney Commission). IR presented a draft summary of consultations, key findings and methodology of the Safety and Security study to date. No direct recommendations were forthcoming with regard to the study.

2.7   New South Wales Police Force – Public Transport Command and CPTED section

On 15 February 2022, IR consulted with representatives of the New South Wales Police Force (NSWPF) – Police Transport Command (PTC) and CPTED section. The consultation resulted in several key findings which have informed this report:

- The rail infrastructure at Central Precinct are attractive targets for graffiti and should therefore be adequately protected with access control measures. Access to restricted areas of the Central Precinct via Chalmers Street is possible due to old infrastructure.

- Additional access control measures should be considered to mitigate the risk of suicide or accidental injuries and fatalities at bridges traversing the rail corridor and at the tracks.

- Potential for protests to use the area as a desire lane between Redfern and the CBD. Current protest gathering points are commonly located in Prince Alfred Park and Belmore Park.

- PTC and CPTED section have identified the Devonshire Tunnel, Belmore Park and Eddy Avenue (especially under the Station building overhangs) as vulnerable locations for women and girls within the Central Precinct. Lighting and CCTV coverage of these areas is insufficient, and the presence of homeless people and other unpredictable people makes the area feel less safe for vulnerable user groups.

- CCTV cameras are disjointed currently, and the Central Precinct must ensure seamless coverage and responsibility.

- Help and duress points should be highly visible and located throughout public areas and vulnerable locations.

- The introduction of highly visible police parking spaces in vulnerable areas surrounding the Central Precinct (e.g. Eddy Avenue, Prince Alfred Park etc.) would provide a deterrent against crime and increase perceptions of safety by users.

- Suggestion to include a small-to-medium-sized but highly visible and strategically located police shopfront area at the Central Precinct. This would deter crime and ASB, increase perceptions of safety and provide users with a 24/7. The police office should include holding cells and the ability to move detained persons from transport facilities to the holding cells and police vehicles in the basement via back-of-house connections without interaction with the public.

- Security management of the Precinct should be coordinated with NSWPF, and the Security Control Room should include provisions for police interaction and liaison (incl sharing of CCTV, dedicated police desks).

- Signage at the Precinct should make the public aware of the presence of a police shop front, CCTV surveillance, plain-clothes officers, and help and duress points.

Relevance to the study: The Summary SRA in **Section 3.2.2** has considered the risks of malicious damage to property, protest and suicide in the Central Precinct context. All security controls raised in the meeting including access control, CCTV, police provisions, security control room coordination, help points, and signage are addressed in **Chapter 3**.

2.8 Inner Sydney High School

On 21 February 2022, IR participated in a meeting between TfNSW and Inner Sydney High School (ISHS) to discuss the Central Precinct renewal program. During the meeting the following points pertinent to security were discussed:

- ISHS has seen multiple incidents of anti-social behaviour in Prince Alfred Park.

- Prince Alfred Park is used by individuals under the influence of drugs and alcohol.

- School dodgers from other schools frequent Prince Alfred Park and there have been incidents of harassment.

- ISHS is expected to increase its student numbers drastically over the next years, and include senior students who are more likely to use public transport, thus increasing their risk profile.

Relevance to the study: ISHS input on anti-social behaviour has informed the summary security risk assessment of this report. Further engagement with ISHS is recommended.

2.9 XYX Labs, Monash University

On 8 March 2022, IR conducted a meeting with representatives from XYX Labs (Monash University), in coordination with TfNSW. XYX Labs is a team of experienced design researchers exploring gender-sensitive design practices and theory. The meeting provided XYX Labs with an overview of the Central Precinct masterplan and work conducted in the safety and security space as well as an opportunity to inform the study report. The following key points were raised in consultation with XYX labs:

- Large parts of the work conducted by XYX Labs focus on integrating gender sensitivity at the granular design level. This will become important as the Central Precinct design progresses.

- Creating a sterile, clean public domain has the potential to exclude certain groups including homeless and aboriginal communities. Consideration is to be given if and how to make the precinct welcoming for homeless persons.

- Specific considerations to infuse the Central Precinct design with gender sensitivity include

    o Increased activity support: greater population and activity opportunities at the Central Precinct are likely to have a positive impact for CPTED purposes

    o Clear wayfinding and limiting the number of tunnels and long passages without entry/exit points

    o Measures to promote inclusivity of diverse groups. Women and girls have responded positively to community artworks in the public domain, rather than statement works by well-known/high-profile artists

- In addressing broader social issues around the Central Precinct site, a principal question the project needs to answer is how to foster a social conscience in users and business/stakeholders present at the site. This can include the promotion of social research at the planned Tech Hub.

- XYX Labs does not elevate the issue of clashes between the presence of unpredictable persons (including the homeless) and perceptions of safety for women and girls. This is a much broader societal issue and should be elevated to be approached in collaboration with local and state governments.

- Documenting and precise measuring the outcomes of consultation with vulnerable user groups are essential to the overall project evolution and incorporating diverse views in safety and security planning.

In agreement with XYX Labs and TfNSW, the meeting served as an initial contact point to establish opportunities for further collaboration as Central Precinct design progresses. *Relevance to the study: This report has considered XYX Labs input on CPTED factors such as increased activity support, clear wayfinding, isolation, and social principles in its assessment. XYX Lab's emphasis on the complexity of social issues has been noted and relayed in this report.*

2.10 Homelessness NSW, Mission Australia and Haymarket Foundation

On 15 Mar 2022, Intelligent Risks participated in a TfNSW meeting with representatives from Homelessness NSW, Mission Australia and the Haymarket Foundation. While the discussion focused on Central Precinct concept, vision and social infrastructure, several points were relevant to safety and security:

- Transport hubs worldwide automatically attract homeless persons.

- Mission Australia's Missionbeat group deals directly with people experiencing homelessness on the street.

- There is only limited research on the impact the presence of homeless persons has on the perceptions of safety for young women and girls. Mission Australia will discuss internally if any research in this field has been conducted.

- Primary objective to improve perceptions of safety for vulnerable groups around homeless persons is to provide social housing.

*Relevance to the study: The Central Precinct approach toward homeless persons is addressed in **Section 3.5.8.5** of this report.*

2.11 Transport for NSW – Emergency Management

On 15 Mar 2022, IR consulted with Marnie Edwards and Ester Luk from TfNSW's Security, Crisis and Emergency Management Team. The brief discussion highlighted the need to commence considerations for the emergency planning at the Central Precinct as the design and operational planning progresses.

- Helpful resources include NSW Emergency Management Plan and the Sydney CBD Safety Sub Plan

- Necessity to establish coordination considerations between TfNSW, potential Central Precinct operator security team, Sydney Trains, and emergency services including FRNSW, NSWPF, SES, Ambulance NSW for emergency management

- Necessity to liaise with emergency services as the capacity to deal with emergencies at Central Precinct needs to be established within these agencies

- Opportunity to integrate emergency management considerations into early design under ANZCTC crowded places strategy and NSW Counter Terrorism Plan, NSW Emergency Management Plan, Sydney CBD Safety Sub Plan

*Relevance to the study: Emergency management considerations are addressed in **Section 3.5.7** of this report.*

2.12   Regional and Outer Metropolitan Communities

In December 2021, TFNSW, in collaboration with The Lab, conducted a Regional and Metro Augmentation Qualitative Debrief for the Central Precinct. The report aimed to ascertain what spaces, attributes or services would attract Greater Sydney, regional and outer metropolitan (ROM) communities to visit, stay and engage with the future Central Precinct. IR did not participate in this consultation, however, was provided with reference material to support this report. Several points are relevant to understanding the views of ROM communities in regard to safety and security at Central:

- Primary concerns of ROM audiences at Central are safety and being lost.

- ROM persons have expressed a sense of feeling unsafe at Central Station and an aversion to exploring the Central area due to safety concerns.

- Contributing factors include a confusing layout of the station, insufficient lighting, presence of unpredictable persons, homeless persons and drug and alcohol abuse.

   Additionally, ROM audiences mentioned a lack of facilities at the station, including spaces to sit, eat, drink, and wait for connecting trains. The lack of facilities is especially pronounced for persons with mobility issues.

- Suggestions and recommendations for a future Central Precinct included: clean rubbish-free amenities and station, CCTV cameras, increased police presence, interactive maps, visible public transport boards (especially for late-night travellers), and art installations that contribute lighting.

Relevance to the study: ROM concerns surrounding perceptions of safety, unpredictable persons, a lack of facilities, space management, CCTV, police provisions, lighting, and wayfinding have been incorporated in the CPTED assessment and recommendations of this report.

2.13   Pride in NSW, Pride in Diversity

On 18 March 2022, TfNSW engaged with LGBTIQA+ advocacy groups Pride in NSW, and Pride in Diversity. IR did not take part in this meeting. However, key points from the meeting in relation to safety and security were relayed to IR afterwards. These include:

- LGBTQIA+ community need safe spaces and services they can go to for help.

- Staff need to be adequately trained to interact with and support the LGBTIQA+ community.

- Relationship between the LGBTQIA+ community and police has not always been positive and there should also be non-policing support options.

- Infrastructure needs to be designed to be inclusive such as adequate bathrooms, signage where to seek help and where facilities are, lighting to be welcoming and directly engage the LGBT community, security needs to create a safe feeling.

- Signs of positivity and inclusivity are very important to a sense of safety and belonging for the LGBTI community.

- Central needs to aim to be visibly welcoming and inclusive of LGBT people.

*Relevance to the study: Considerations surrounding safe spaces, security staffing incl. training, public bathrooms, signage, and lighting with vulnerable persons in mind have been included in the recommendations in **Chapter 3**.*

2.14   Greater Cities Commission – Youth panel

On 12 April 2022, TfNSW conducted a virtual consultation with the Greater Cities Commission Youth Panel. The discussion focused on perceptions of safety for young women and girls and persons from diverse multicultural backgrounds. It was attended by representatives from the Greater Cities Commission, including the Women's Safety Charter, Tech Central precinct team, the Eastern City District, Northern District, Western Parklands City, and Central District. The panel consisted of persons from diverse gender, geographic, linguistic and cultural backgrounds. IR did not participate in the meeting but was provided with the meeting recording to inform this report. Key findings include:

- Current Central Station environment

  o Words, feelings, images associated with Central Station currently include unsafe, confusing, connection, dirty, busy, walking, tunnels, claustrophobic, pushing, dark, Belmore Park, occasional urine smell.

  o Workshop participants felt 'sometimes' safe at Central Station, although 'mostly' mostly was also used as a descriptor.

- Perceptions of safety

  Participants felt safe to go to the following places at any time of day/night: shopping mall; busy Kings Cross; university; Beijing; Cairns esplanade; Fairfield.
  o   Factors influencing perceptions of safety within a public place include:

    - A common purpose for users.

    - Presence of safe, crowded night-time transport options.

    - Being surrounded by people from similar cultural, linguistic, and ethnic backgrounds.

    - Supportive and ambient lighting.

    - Increased activation after-hours.

    - Presence of CCTV.

    - Public help points with adequate instructions and education on how to use them.

    - Mobile services or app explaining the Precinct and ability to alert security.

    - Isolated spaces and corridors.

    - Presence of unpredictable, threatening, or harassing persons.

    - Lack of service or security staff.

    - Personal background incl. gender.

    - Familiarity with the layout and comfort with area.

- Central Precinct Renewal

  - Suggestions to improve safety and security at Central Precinct

    - Integration of non-transport facilities within Precinct (e.g. bars, offices, theatre, affordable restaurants, shops)

    - Activation to be geared toward diverse user groups

    - The presence of volunteers (e.g. Take Kare, Red Frogs) was perceived positively

    - Cleanliness and nice atmosphere

    - Glass frontages and open spaces for visibility

    - Lighting not too bright or sterile

    - Landscaping and public art, including Aboriginal art

    - Secure bike storage

    - Welcoming entry spaces

Relevance to the study: The Safety and Security Strategy has given consideration to the factors influencing perceptions of safety described by panel participants in the perceptions of safety model in section and recommendations in section 3. This includes issues of activation, lighting, CCTV, public help points, elimination of isolated spaces, security staffing, presence of volunteers, mobile services, natural surveillance ability, supportive landscaping, social CPTED issues, and space management.

2.15   Transport for NSW - LGBTQIA+ network survey

As part of the consultation process to inform the Central Precinct response to the DPE SSP study requirements, Transport for NSW conducted a survey with members of the LGBTQIA+ community and allies, covering topics of safety and security at the Precinct. The survey was answered by 23 people from diverse backgrounds and yielded the following results:

- The majority of respondents felt safe walking in and around Central Station 'most of the time' (60.9%), followed by 'always' (17.3%). The remaining five respondents felt 'sometimes' (13%) or 'rarely' (8.7%) safe at Central Station.

- Negative feelings associated with Central Station included insensitive posters, presence of threatening individuals/groups at night time, presence of homeless people, presence of drug/alcohol-affected behaviour, little activation, isolated tunnels, lack of vibrant lighting, smell of urine, and secluded station exits.

- Public spaces in which respondents felt safe generally featured good lighting, no secluded spots within public domain, community activation, appropriate usage and maintenance of space, presence of adequately trained security staff, seating opportunities, CCTV, police presence, landscaping, recreational spaces, good visibility, and absence of threatening persons.

- Avoidance and leaving the area was the most commonly cited response mechanism to feeling unsafe in a public space. Several responses included seeking staff, security or police help.

- Opinions on CCTV were split between respondents who felt safer with cameras in the public space, and others who acknowledged their use for investigation but not for immediate safety. Three respondents referred to the importance of privacy.

- Respondents were generally clear on the necessity for an uplift in illumination at the Central Station surroundings (e.g. Eddy Avenue, Pitt Street) and emphasised the importance of adequate lighting at the Precinct. Several comments mentioned the need to consider aspects of warmth, brightness, non-fluorescence, colour, and contrast in lighting as opposed to mere maximisation of light.

- On the topic of a potential 24/7 security presence at the Precinct, the majority of respondents were either wholly (34.7%) or partially (52%) receptive to the idea of increased safety through security staffing. Comments for consideration included improving the quality and training of security staff (incl. friendly interactions with LGBTQIA+ community) and ensuring security coverage of Central Station surroundings. One comment mentioned the possibility of a police station within the Precinct.

  The following table lists items suggested by respondents as improving their experience at the Precinct with relevance to safety and security, including comments on the key points above. The adjacent column provides references to how and where this has influenced and been considered in this strategy.

Table 4: Key safety and security-relevant items from LGBTQIA+ survey and consideration in report

Key safety and security-relevant item raised in survey	Impact and addressed in report
Better quality lighting	Section 3.4.11 of this report provides recommendations on lighting for safety and security purposes at Central Precinct. The section reflects the need to implement a modern approach with layered and context-specific illumination which considers the experiences of vulnerable groups rather than mere lux maximisation.
Public seating and resting options	Central Precinct will improve seating and resting options throughout the Precinct public domain. This item is addressed in the Crime Prevention Through Environmental Design (CPTED) design assessment contained in Appendix D.
Overt LGBTQIA+ pride signs (flags, murals, staff pins, stickers, artwork, posters)	The positive influence of art and design elements in the public domain on perceptions of safety and security are reflected in the model contained in section 3.2.4. This survey has informed CPTED recommendations on territorial reinforcement in section 3.4.3.3.
Elimination of poor design (isolated spaces, underpasses, poor visibility)	The impact of design on the safety and security of Precinct users is a core element of this report. A detailed assessment of the currently proposed Central Precinct design has been conducted in Appendix D. Overall, Central Precinct alleviates many design-related safety concerns at Central Station. Additional design recommendations are contained in section 3.4.3.
Higher activation of public space through restaurants, bars, cafés, shops	A higher level of pedestrian activation is a core objective of the Central Precinct renewal program and will have a positive impact on safety and security within the Precinct. The CPTED assessment contained in Appendix D and activation support recommendations in section 3.4.3.6 address this item.
LGBTQIA+ friendly health clinic (incl. mental health support) / Library with LGBTIQA+ resources	These items are part of the wider social considerations for the Central Precinct and are best addressed in the Social Infrastructure and Health Impact Study. See section 0 for further detail.
Increased staff presence (incl. security/police presence or police station)	The majority of respondents supported increased security staff presence and indicated they would seek the help of staff when feeling unsafe. Security staffing is addressed in section 3.5.5 of this report. Additional provisions for police presence (incl. a permanent police shop font within Central Precinct) are addressed in section 3.4.5.

Key safety and security-relevant item raised in survey	Impact and addressed in report
Adequate training of security staff (incl. interactions with LGBTQIA+ community)	The importance of staff training and exercising, including in their interactions with the LGBTQIA+ community and other vulnerable groups, is contained in section 3.5.5.
CCTV with supporting signage	The majority of respondents supported the presence of CCTV at the Precinct, whether for perceptions of safety or use in post-incident investigations. Section 3.4.8 addresses CCTV recommendations at the Central Precinct.
LGBTQIA+ friendly safe space/quiet area	Comments on this issue have informed recommendations in section 3.5.8.3.
Emergency/help points	Duress and help points at Central Precinct are recommended in section 3.4.7 of this report.
Shuttle services to Taylor Square/Oxford Street	This issue falls under the purview of Central Precinct transport-considerations and wider Transport for NSW planning.
Well maintained and clean public spaces	A clean and well-maintained public domain is a core element of CPTED. Recommendations on space management in section 3.4.3.5 address this issue, incl. removal of offensive posters.
Publicly accessible power points and charging stations	The possibility of including power outlets at help points in the public domain has been included in section 3.4.7. Additionally, the option to charge phones at night-time in public safe spaces staffed by volunteers is discussed in section 3.5.8.3.
Cultural/show spaces with live entertainment (and other recreational activities)	The fostering of community culture e.g. through events, live entertainment and sporting facilities is an important part of social CPTED (see section 0). Central Precinct planning includes provisions for community sporting facilities and events to be held at the Precinct. Security considerations for events are contained in section 3.5.6.
Landscaping	Central Precinct renewal design planning includes wide-spread landscaping and natural elements in the public domain. The influence of landscaping on safety and security has been considered as part of the CPTED assessment contained in Appendix D and informed the recommendations in section 3.4.3.1.
Absence of threatening persons, drug/alcohol-affected and other anti-social behaviour	The impact threatening persons have on perceptions of safety and security is recognised in the Security Risk Assessment and has informed the model in section 3.2.4. The attempt to prevent and minimise their presence at Central Precinct is an objective of this strategy achieved through the implementation of recommendations contained in sections 3.4 and 3.5.
Interaction with homeless persons	Respondents' opinions diverged on the issue of whether to specifically cater for homeless persons and the perceived negative association with their presence in a public place. This dichotomy is recognised and recommended for further analysis in a Central Precinct-specific Homeless Strategy (see section 3.5.8.5).

Relevance to the study: The survey conducted with members and allies of the LGBTIQA+ community has provided an array of useful items for consideration and input into this Safety and Security Strategy. The experiences of respondents in regards to safety and security in public spaces and factors influencing their perceptions of safety have been included in the qualitative section of the Security Risk Assessment and the perception of safety model in section 3.2.4. Specific security-relevant items raised by respondents and the section in this report addressing these issues are listed in Table 4.

2.16   Greater Cities Commission – Women's Safety Charter

On 10 May 2022, TfNSW conducted a virtual briefing with the Women's Safety Charter (WSC) of the Greater Cities Commission (GCC, formerly Greater Sydney Commission). Participants included representatives from the University of Technology Sydney (UTS), the University of New South Wales (UNSW), the Greater Cities Commission (GCC), Disability Council NSW, Planning Institute of Australia - NSW Division, the Western Sydney Women organisation, and Shebah – a rideshare project tailored to women and other vulnerable groups. The following points provide a summary of the meeting:

- Transport for NSW provided the WSC participants with a high-level overview of Central Precinct master planning and a draft approach to safety and security contained within this report. Overall, the response of WSC members was positive.

- A question on the approach to identify and manage incidents occurring at Central Precinct was satisfactorily answered with a synopsis of operational security recommendations and provisions for the Precinct security command centre, CCTV, and police collaboration.

  Representatives of the women-focused ride-share application Shebah provided input on pick-up/drop-off points (PUDOs) at the Precinct. Consideration should be given to providing adequate PUDO spots in key locations.

- Representatives of the Disability Council NSW raised the fact that people with various disabilities, especially women, face high rates of abuse. Central Precinct provides a great opportunity to build a precinct which is safe and accessible, and fully integrates people with various disabilities. Consideration should also be given to the provision of affordable and accessible housing for disabled persons at Central Precinct. TfNSW responded that affordable housing will be a part of the Central Precinct residential area.

- Representatives from UTS emphasised the need for integration of safety and security measures at the edges of the development with provisions in surrounding suburbs. TfNSW is committed to ensuring that Central Precinct is not a segregated precinct but integrates closely with the surrounding environment.

Relevance to study: Input from Shebah on PUDOs has informed vehicle recommendations in section 3.4.16. Issues of integration and accessibility for disabled persons are best addressed by other transport and social strategies completed as part of the SSP requirements (see section 0) – for example through the use of autonomous vehicles for mobility impaired persons to safely move within the Central Precinct. Input from the Disability Council NSW has informed recommendations of help/assistance points (section 3.4.7), security staff training (section 3.5.5) and emergency management planning (section 3.5.7). Additional consultation with persons with various disabilities is recommended to be conducted as Central Precinct design progresses to address specific design issues. Input from UTS on integration of measures at the Precinct perimeter has informed recommendations on CCTV (section 3.4.8, 3.4.10), and the Precinct security command centre (section 3.5.2).

3.   Recommendations

3.1   Methodology – concepts and references

The following sections outline key safety and security concepts and references which have informed the development of this report.

3.1.1   Crime Prevention through Environmental Design

People's behaviour, particularly in terms of the possibility of offending, as well as an individual's perception about their safety, can be influenced by the design of that environment. Good design of places, spaces and buildings can reduce opportunities for offending and improve feelings of safety.

The International Crime Prevention Through Environmental Design (CPTED) Association defines CPTED as:

A multi-disciplinary approach to deterring criminal behaviour through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts by affecting the built, social and administrative environment.

The concept of CPTED is to design physical features for public spaces, buildings, and their surroundings to produce desired behavioural effects in the users of the space while facilitating the observation of and response to criminal behaviours. The overarching CPTED framework is illustrated in **Figure 4.**

CPTED guidelines support the intention to create a vibrant, safe and secure Central Precinct by:

- Removing conditions that create confusion about required norms of behaviour.

- Reducing potential rewards of crime by minimising, removing or concealing crime benefits.

- Increasing the effort required to commit a crime by increasing the energy, time or resources that need to be expended.

- Increasing the perception of risk to criminals by increasing the possibility of detection, capture and challenge.

Opportunistic crime occurs in areas that are easily accessible by offenders and carry little or no risk of committing an offence. CPTED seeks to influence the behaviour of both the legitimate users of an area (by increasing their sense of safety) and the opportunistic offender (by increasing the sense of risk). It is particularly influential in publicly accessible areas.

The highest numbers of offences in the Sydney Local Government Area (LGA) include crimes typically regarded as opportunistic (assault, stealing, and property damage). CPTED has a definite role to play in creating an environment that does not facilitate these crime types– well lit, defined, maintained, active spaces that are easily observed and invite behaviour that promotes a sense of safety in legitimate users, whilst deterring would-be offenders.

Figure 4: CPTED framework (Source: ISO 22341:2021)
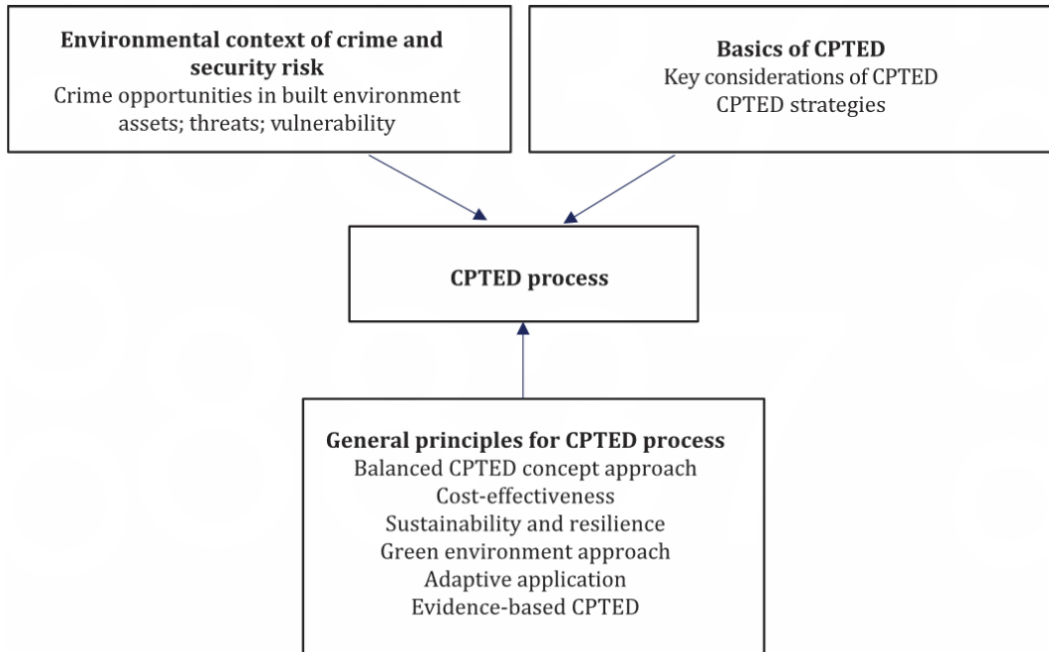
The CPTED assessment contained in this report analyses the current Central Precinct Reference Master Plan design, identifying strengths and weaknesses from a designing out crime perspective, and provides guidance for the Central Precinct design team on ways to incorporate or enhance CPTED within the design. The typical CPTED assessment process is illustrated below in **Figure 5.**

Figure 5: Process of CPTED assessment (Source: ISO 22341:2021)
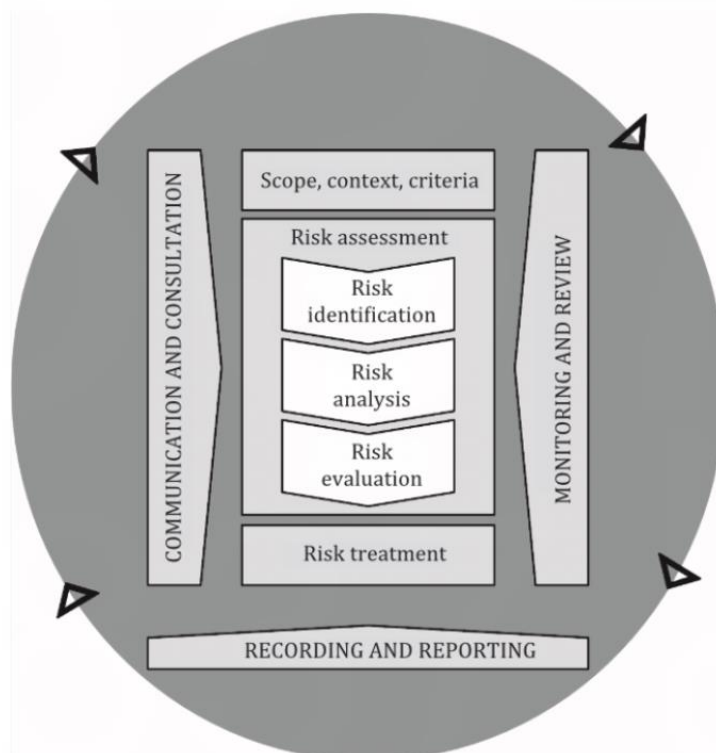
The following tasks were undertaken in the preparation of this CPTED assessment:

- Collection and analysis of the local crime statistics from BOCSAR relevant to Central Precinct

- Desktop review of documents and plans provided, including extensive collected evidence regarding safety and security incidents and the perceptions of vulnerable persons around Central Station.

- Stakeholder consultation, wherein stakeholders identified areas of concern for safety and security at Central Precinct and surrounding area.

Figure 6: Social and physical CPTED principles
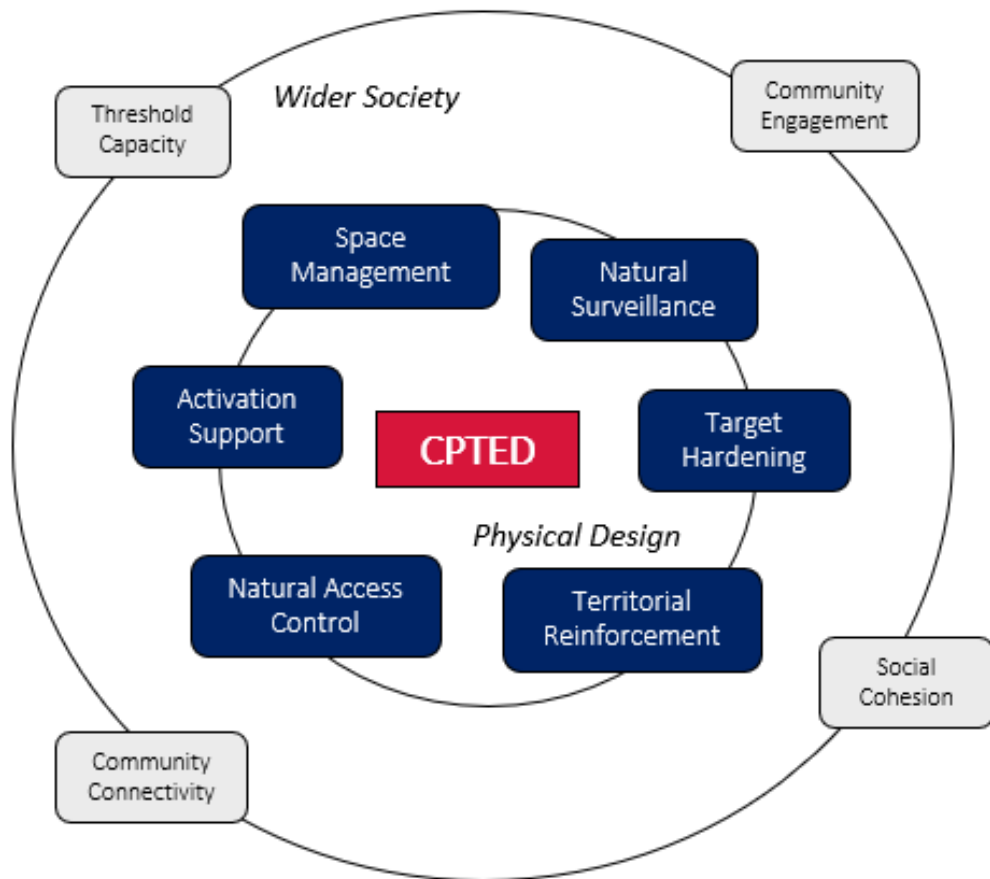
3.1.1.1 Physical CPTED

This CPTED assessment has reviewed the Central Precinct reference master plan design for evidence of incorporation of the physical CPTED principles outlined below in **Table 5**.

Table 5: Definitions and descriptions of physical CPTED principles

Principle	Description
Surveillance	The location and use of design features and activities which create a perception of increased risk of detection for perpetrators of criminal activity and of increased safety and security for legitimate users. Criminals do not usually want to be seen. Placing physical features, activities and people in ways that maximise the ability to see what is happening discourages crime. Strategies for crime prevention should contribute to vitality, accessibility and diversity. Barriers such as blank walls or building facades without windows can make it difficult to observe activity.
Access Control	The use of design features that deny offenders access to targets, reduce their escape opportunities, and guide legitimate users through the environment. Natural access control involves the use of the environment to clearly mark borders and transitional zones to psychologically deter movement of illegitimate users into protected space. Human measures such as security guards can also be used. Further measures include security hardware, which is often referred to as target hardening.
Territorial Reinforcement	The use of physical features designed to express ownership and control of the environment and delineate private and semi-private spaces reducing ambiguity of space ownership. People usually protect territory that they feel is their own and have a certain respect for the territory of others. Identifying intruders is much easier in a well-defined space. An area that looks protected gives the impression that greater effort is required to commit a crime.
Target Hardening	The physical securing of buildings and places against access from offenders. Generally, the mechanisms and elements of target hardening are very detailed and relate only to the micro scale, affecting building design and detailing. The issues associated with target hardening include the potential for detailed target hardening responses to have an adverse effect on public safety. Measures such as enhanced locks, bars, closed circuit television, window shutters and security fencing all can contribute to reducing opportunities for criminal behaviour. However, the inclusion of such elements can conflict with other community-based activities and can also detract from the amenity of an area resulting in an increase in the perception or fear of crime. Although a valid and valued tactic, target hardening requires careful integration within an overall approach to designing out crime and crime risk assessment. All designing out crime measures should be exhausted before introducing target hardening.
Space Management	Management and maintenance are closely linked to a sense of safety and security and pride in a place. Good management and maintenance of a place or property can make the difference between it seeming safe or unsafe. The aim is to promote a perception that a space or property is cared for by its owner and those who use it. This in turn encourages greater use and reduces the likelihood of crime being committed.
Activity support	Legitimate activity support uses design and signage to encourage acceptable behaviour in the usage of public spaces and places unsafe activities (such as those involving monetary transactions) in safe locations (those with high levels of activity and with surveillance opportunities. Similarly, safe activities serve as attractors for legitimate users who could then act to discourage offending. This concept has clear links to those of territoriality, access control and surveillance. Detailed activation planning for Central Precinct will occur in subsequent design and operational stages. Central Precinct master planning allows for increased activation of public domain.

3.1.1.2   Social CPTED

Physical CPTED strategies alone will not make areas completely safe for the community and their property. CPTED principles must work in conjunction with social strategies and issues (e.g. to reduce homelessness and support homeless persons), crime prevention strategies, precinct security and wider police operations (as appropriate).

Contemporary theories of CPTED, classified as second generation, recognise the need to include social concepts as part of the crime prevention effort. The physical CPTED concepts primarily assessed in this study from a safety and security perspective are supported by and often promote and facilitate social CPTED concepts.

Social concepts contributing to CPTED go beyond considerations of safety from security-perspective and, to a certain extent, beyond the Central Precinct development itself. Several principles (incl. social cohesion) are considerations at the city, state and national level.

Nonetheless, several socially oriented reports prepared as part of the SSP submission can contribute to fostering social cohesion, community connectivity, community culture and threshold capacity in the Central Precinct context. These may include:

- Population and Demographics Study

- Social Infrastructure and Sustainability Study

- Health Equity Assessment

- Transport Planning Study

- Infrastructure Delivery Study

- Aboriginal Cultural Heritage Study

- Public Art Strategy.

These fields of study are vital in creating a wider social environment that is conducive to facilitating a safe and secure Central Precinct. Safety and security design and operational planning will, where relevant, provide input and guidance on the needs and impacts of the initiatives, actions and recommendations made. This will occur as design and operational planning for social infrastructure, transport, public art, and other social programmes become more detailed. An example is the provision of protective security advice as design of the proposed social multipurpose facility progresses. The four key principles of social CPTED are outlined in **Table 6**.

Table 6: Definitions and descriptions of social CPTED principles

Principle	Description
Social cohesion	Social cohesion involves nurturing an environment where there exists mutual respect and appreciation of the similarities and differences between people and groups within a community. A socially cohesive community places a strong emphasis on diversity, shares a common vision and a sense of belonging, and works to develop positive relationships between people from different backgrounds. Social cohesion is a complex and continual issue that goes beyond the situation at Central Precinct but encompasses wider community efforts within Sydney, NSW and Australia as a whole. Australia is a diverse society consisting of people from various ethnic, linguistic, religious, mobility, gender, and sexual backgrounds and identities. As a microcosm of this diverse society, Central Precinct shall incorporate infrastructure and initiatives which foster a sense of belonging for all users. Important work in this regard has been conducted as part of the complimentary studies listed above. Supportive recommendations include, among others, the incorporation of an integrated multipurpose facility with library, recreation, cultural, indigenous, creative and community provisions. This facility should place emphasis on providing services for vulnerable groups and integrating them into the Central Precinct community.
Community connectivity	Community connectivity involves partnerships with the community. This connectivity can help encourage and maintain community self-policing. Examples of partnerships with user groups can include: – Engagement with advocates of rough sleepers – Engagement with First Nations communities – Engagement with advocates and representative groups for women and girls – Engagement with LGBTQIA+ community – Engagement with mobility-restricted or disabled persons – Engagement with users from diverse linguistic and ethnic backgrounds. – Engagement with members of several of these groups has been conducted as part of the development of the Strategy and has been integrated into its findings and assessment (including the accompanying Summary Security Risk Assessment). Continuous engagement with these at-risk and diverse user groups is essential in continuing to plan for a safe and secure Central Precinct in which all users and communities feel welcome. Public Safety Initiatives, included in **Section 3.5.8** of this report for consideration during Central Precinct planning, can further contribute to community connectivity and help encourage and maintain community self-policing.
Community culture	This is present when residents come together and share a sense of place and partly explains why they can display territoriality. This relates to the community setting up and participating in festivals, cultural events and youth clubs, and commemorating significant local community events and people. The planning and management of events at the Central Precinct will be considered in later design phases. Sufficient spatial and infrastructure provisions shall be made as early as possible in the design process to accommodate events to be held at Central Precinct. This shall be supported by adequate event security management measures, as touched on in **Section 3.5.6** of this report. Additional measures can include, for example, the installation of public cultural art or the display of LGBTQIA+ pride flags and symbols in the Central Precinct public domain.
Threshold capacity	This relates to neighbourhoods as ecosystems with a finite carrying capacity for certain activities and land uses. This threshold capacity is recognised and managed in order to maintain the local community ecosystem by promoting human-scale and pedestrian-oriented land uses and activities. Threshold capacity is addressed in the following reports: The Population and Demographics Study conducted by SGS Economics & Planning as part of the Central Precinct SSP study submission has conducted relevant research on the existing and future population and employment profile of the Precinct and surrounding area. This informed assessments of the threshold capacity of the Central Precinct to support employment, residences, and student housing. The transport planning report has conducted a preliminary movement, place and safety assessment for the current and future Precinct and the surrounding area. GIS-based modelling and assessments of pedestrian flows and desire lines at the Central Precinct are vital in promoting human-scale and pedestrian oriented land uses and activities

3.1.2   Protection of crowded places

In 2017, the Australian-New Zealand Counter Terrorism Committee (ANZCTC) set out
Australia's Strategy for Protecting Crowded Places from Terrorism (the Crowded Places
Strategy). The Precinct classifies as a 'crowded place' and is therefore subject to the
requirements and procedures outlined in the Crowded Places Strategy.

**Figure 7: Components of Australia's Strategy for the Protection of Crowded Places (Source:
ANZCTC, 2017)**

The Crowded Places Strategy sets out four key aims relevant to the design and operation of
Central Precinct:

- Building stronger partnerships through the new 'Crowded Places Partnership' framework.
  The framework establishes the protection of crowded places as a responsibility shared by
  governments, the private sector and communities. The Partnership provides a consistent
  approach in each state or territory for trusted engagement between all levels of
  government, state and territory police, and owners and operators of crowded places
  across the country. Crowded Places Forums constitute the primary vehicle for police to
  engage collectively with owners and operators of crowded places.

- Enabling better information sharing and guidance across Australia between governments,
  industry sectors, businesses and communities. It is a key responsibility of the
  Commonwealth and NSW governments to ensure that owners and operators of crowded
  places in Sydney have access to high-quality threat information, generated by the
  Australian Security Intelligence Organisation (ASIO) and the New South Wales Police
  Force (NSWPF), and shared through the forums.

- Implementing effective protective security. Under the strategy, owners and operators of crowded places have primary responsibility for protecting their sites, including a duty of care to protect people that work, use, or visit their site from a range of foreseeable threats, including terrorism. This includes, among others, the responsibility to undertake risk assessments of the Central Precinct, implement risk control measures, and conduct regular testing of comprehensive security plans. Operators and owners are further responsible for monitoring the current terrorist threat environment and raising awareness of possible security threats among staff or patrons.

- Increasing resilience of crowded places in order to better prevent a terrorist attack, reduce the damage caused by an attack, and recover more quickly following an attack. Building a strong security culture at Central Precinct is essential to building resilience. This can include:

  o Ensuring security is a permanent feature of executive decision making

  o Senior management demonstrating a commitment to security

  o An understanding of risk resulting from inadequate protective security measures

  o Providing clear guidance about security standards and procedures

  o Promoting good security practice

  o Adopting effective and lawful staff screening and training

  o Self-initiated testing and information sharing

Considerations for a communication strategy for raising awareness among staff and other stakeholders who need to know about security plans.

3.1.3 Protection of critical infrastructure

In parallel with the aforementioned Crowded Places Strategy, in 2017 the ANZCTC set out the *National Guidelines for Protecting Critical Infrastructure from Terrorism*.

Under the guidelines, critical infrastructure owners and operators are encouraged to adopt an intelligence-led, risk-informed approach to develop adequate levels of protective security and to develop contingency and emergency response arrangements based on security risk assessments. Responsibilities for owners and operators include:

- Maintaining an awareness of the operating environment of the site

- Providing adequate security for the asset, based on threat and risk analysis

- Actively apply risk management techniques to planning processes

- Conducting regular reviews of risk assessments and security, emergency, and contingency plans

- Reporting any incidents or suspicious activity to the NSW Police Force

- Develop and regularly review business continuity plans, including identifying interdependencies

- Conducting training and exercise on their security, emergency, and continuity plans

- Participate in government exercises to assist in harmonising prevention and recovery arrangements with relevant controlling agencies.

The Critical Infrastructure Advisory Council is the governmental support forum for owners and operators of critical infrastructure. The guidelines provide further detailed information on the protection of critical infrastructure under the government's *Prevention, Preparedness, Response and Recovery* process.

Central Precinct classifies as a Critical Public Transport Asset as defined under the *Security Legislation Amendment on Critical Infrastructure Act 2021.* Combined with the *Security of Critical Infrastructure Act 2018*, the amendment forms the *Critical Infrastructure Positive Security Obligations Framework.*

Under the amendment, operators and owners of critical infrastructure assets are required to report cyber security incidents to the Australian Signals Directorate. It further expands ministerial powers to authorise interventions in case of cyber security incidents.

Additional requirements for owners and operators of critical infrastructure assets may be enacted in the future under a second stage of amendments to the Act.

3.1.4   Security in-depth principle

The 'security in depth' approach is the security model underpinning the Strategy. The model applies a philosophy that security management requires more than physical barriers and checks. An understanding of 'what needs to be protected' enables the correct and layered application of physical, technical and procedural measures that work as an integrated 'system of systems' to support the safety and security needs of Central Precinct and all users.

The measures are designed to either prevent or mitigate the risks identified in the Central Precinct Summary Security Risk Assessment and each contribute to one or more of the following four security objectives:

- **Prevent**. Reduce/ eliminate the likelihood and impact of a potential security threat

- **Prepare**. Ensure response and recovery actions are effective

- **Respond**. Contain, control and minimise the impacts of an incident

- **Recover**. Return the site and its operations to their steady-state and action any lessons learnt.

The above objectives are consistent with the 'security in depth' approach espoused by the Australian Government in its guidance for the protection of crowded places (refer to Australia's Strategy for Protecting Crowded Places from Terrorism and supporting protective security guidelines).

Securing the site requires the use of mutually supportive elements that contribute to an approach of 'deter, detect, delay, respond' (D3R). **Figure 8** illustrates the Australian Government's D3R model.

Unaligned security measures – within Central Precinct and wider surrounding area – will result in wastage of resources, potential security gaps, and the possibility of uncontrolled security hazards impacting on Central Precinct activity.

An effective protective security strategy is characterised by the cohesive application of the primary principles of safety and security.

Figure 8: Security in-depth principles (Source: ANZCTC, 2017)

3.1.5 Applicable security standards and guidance

Official international and Australian guidelines and standards will provide the foundation of security philosophies, guidelines, and standards developed for the Central Precinct. It is critical to establish a clear set of security documentation to support the application and ongoing management of Central Precinct security.

The security risk treatment and mitigation measures implemented for Central Precinct should comply with the standards, guidelines, and handbooks listed in **Appendix C.**

3.1.6 Applicable safety and security reference documents

In order to assess the existing safety and security environment at the Central Precinct, especially in regard to specific user groups such as women and girls, several key documents and sources were reviewed in preparation for developing the Strategy. including:

- PLAN International / Monash University – Free to Be: Sydney Report, 2018

- Committee for Sydney – Safety After Dark: Creating a City for Women Living and Working in Sydney, March 2019

- Housing NSW – Protocol for Homeless People in Public Places: Guidelines for Implementation, May 2013

- Local Government NSW – Inquiry into the Protocol for Homeless People in Public Places, February 2020

- TfNSW – Exploring the Design of Interchanges with Homelessness in Mind, June 2018 (AP 18-04)

- Intelligent Transport – Transport for London launches campaign to tackle sexual harassment, Oct 2021

- University of Technology – Designing out Crime Initiative

- She's a Crowd – Online Mapping Tool

- Arup – Making Sydney Safer for Women and Girls

- Monash University – Lighting Cities: Creating Safer Spaces for Women and Girls

- UN Women – Safe Public Transit for Women and Girls

- City of Vienna – Manual for Gender Mainstreaming in Urban Planning and Urban Development

- TramLab – Toolkits: Improving the safety of women and girls on public transport.

3.2   Methodology – Central Station security environment

The following sections provide an analysis of the current safety and security environment, including perceptions of safety, at Central Station, based on quantitative and qualitative evidence.

3.2.1   Summary of existing security environment

The relevant safety and security documents and sources in **Section 3.1.6** have supplemented the analysis of the Security Risk Assessment (see **Section 3.3**) and informed the Strategy. Key points pertinent to the safety and security environment at the Precinct, in particular the experiences of vulnerable groups, are outlined below:

- Sydney is one of the world's safest cities and is generally perceived as safe. However, Central Precinct, in particular, Central Station, Belmore Park, and Prince Alfred Park remain hotspots for some crime types and are currently perceived as some of the most unsafe locations in Sydney.

- Perceptions of safety can be influenced by environmental and design factors (poor lighting, lack of clear sightlines, graffiti, damaged property, rubbish, and lack of seating, recreational spaces or people) and social factors (lack of employment, education and health services, or behaviour of other people e.g. drug consumption).

- Factors influencing the occurrence of harassment in Sydney include:

  o The presence of unpredictable people such as groups of men, individuals affected by drugs or alcohol, the homeless or a combination of these. Homeless persons are presumed to be risky due to harassment for money or due to mental instability.

  o An absence of people in the area or a lack of intervention from bystanders. Busy or buzzy areas were often cited as safe by women out at night for recreation.

  o Environmental or physical factors including poor lighting, poor infrastructure, lack of security, and presence of rubbish. Low levels of lighting constitute the most prevalent physical contributor to feeling unsafe, especially for women commuting for work at night. Additionally, a lack of escape routes and stretches of no activity/unoccupied buildings (dead frontage) are specifically highlighted as problems.

- The presence of security, police or other staff is important for a safe environment for women at night. This is especially applicable to public transport, where modes of transport that minimise waiting times and have visible staff are associated with being safer.

- Factors contributing to good experiences include busy areas, the community environment/interventions, adequate lighting, infrastructure, presence of security/police, public transport, and daytime.

- There is a general reluctance for women and girls to report bad incidents to authorities, predominantly due to the repetitive nature of harassment experienced and the fear of escalation due to police involvement. Only 9% of bad experience pins on mapping tools were reported to police.

- Many forms of harassment are not illegal, and are difficult to report or document when they do not meet criminal thresholds of behaviour.

- Women and girls significantly change their behaviour in a perceived or actual unsafe environment, ranging from internalisation of bad experiences to complete avoidance of the area.

- The impacts of harassment go beyond the fear of a violent attack and limiting movement in the city. It also encompasses increased self-objectification, increased depression and anxiety, lower self-esteem and confidence, and emotional impacts such as feeling anger, shock, and a sense of violation often for prolonged periods.

- Experiences shared by women suggest that places that are deemed safe during the day may become off-limits when darkness falls, and different strategies and responses may be required for improving safety after dark.

- The NSW Government protocol for homeless people in public places aims to help ensure that homeless people are treated respectfully and not discriminated against based on their situation. The protocol states that homeless persons should not be approached outside of exceptional circumstances such as requiring assistance or exhibiting threatening behaviour.

- An inquiry into the NSW Government homeless protocol put forward several recommendations, including:

  o The need to clarify whether the use of design elements to dissuade usage by homeless people (e.g. placement of armrests in the middle of double seats, or having sloping benches to prevent people from sleeping on them) is acceptable.

  o Implementation of 'Report a Rough Sleeper' tool to log and identify homeless people.

  o Publicly communicated examples of appropriate responses for members of the public wishing to help and advocates for adequate funding of specialist homelessness services (SHS), who are best placed to assist.

3.2.2   Summary Security Risk Assessment

A summary Security Risk Assessment (SRA) was completed and documented separately to this report to assess the security threats that could potentially impact the safety and security of people, assets, and operations within and connecting to the Central Precinct. The output of the SRA is to establish a baseline for the safety and security controls (both design and operational) provided in **Section 3.4** and **Section 3.5**. The controls are intended to ensure consistent and effective management of risks by site operators, development proponents and other safety and security stakeholders.

The SRA considered plausible methods and sources of attack for each of the identified threats to form ratings of likelihood, consequence, and inherent and residual risk. The summary SRA updates previous assessments conducted for the Central Precinct and the current Central Station environment. In addition to the SSP study requirements, which focus on crime prevention and perceptions of safety by users, the SRA also addresses risks associated with terrorism, protest and other risk events.

The SRA is consistent with the approach contained in the International Standard *Risk Management – guidelines* (ISO 31000:2018), and guidance documentation from the Australian Government and Transport for NSW (TfNSW). Risk criteria and matrices are drawn from the TfNSW standard *Risk Criteria for Use by Organisations Providing Engineering Services* V2.0 (T MY MD 20002 ST). A copy of the risk matrix is included in **Appendix E** of this report.

Table 7 below provides the summary risk register detailing ratings both prior to (inherent) and following the application of security controls (residual) relevant to the Central Precinct. Further analysis underpinning the ratings is contained in the summary SRA (not for public release), which shall be monitored, reviewed and updated as design of the Central Precinct progresses. Note the SRA excludes consideration of construction site safety and security risks.

Table 7: Copy of summary security risk ratings

Hazard ID	Security Hazard / Incident	Precinct Vulnerable Area	Inherent Risk			Residual Risk		
			Likelihood	Consequence	Risk Rating	Likelihood	Consequence	Risk Rating
001	Assault	Public Domain	Almost Certain	Major (C3)	A	Likely (L3)	Moderate (C4)	C
002	Sexual Offences	Public Domain	Very Likely (L2)	Severe (C2)	A	Likely (L3)	Moderate (C4)	C
003	Theft from Person	Public Domain	Almost Certain	Minor (C5)	C	Almost Certain (L1)	Insignificant (C6)	D
004	Theft from Retail	Publicly Available	Almost Certain	Insignificant (C6)	D	Very Likely (L2)	Insignificant (C6)	D
005	Break and Enter (non-dwelling)	Publicly Available Spaces (Retail, Cafes, Restaurants)	Likely (L3)	Minor (C5)	C	Unlikely (L4)	Insignificant (C6)	D
006	Robbery	Public Domain	Very Likely (L2)	Moderate (C4)	C	Likely (L3)	Insignificant (C6)	D
007	Malicious Damage to Property	Public Domain	Almost Certain (L1)	Minor (C5)	D	Likely (L3)	Insignificant (C6)	D
008	Disorderly Conduct	Public Domain	Almost Certain	Moderate (C4)	B	Very Likely (L2)	Insignificant (C6)	D
009	Intimidation, Harassment & Stalking	Public Domain	Almost Certain (L1)	Moderate (C4)	B	Very Likely (L2)	Insignificant (C6)	D
010	Drug & Liquor Offences	Public Domain	Almost Certain (L1)	Moderate (C4)	B	Very Likely (L2)	Insignificant (C6)	D
011	Prohibited & Regulated Weapons	Public Domain	Almost Certain (L1)	Moderate (C4)	B	Likely (L3)	Insignificant (C6)	D
012	Placed IED	Public Domain	Unlikely (L4)	Catastrophic (C1)	B	Very Unlikely (C2)	Catastrophic (C1)	B
013	Person-borne IED	Public Domain	Very Unlikely (C2)	Catastrophic (C1)	C	Almost	Catastrophic (C1)	C
014	Vehicle-borne IED	Public Domain	Very Unlikely (C2)	Catastrophic (C1)	C	Very Unlikely (C2)	Severe (C2)	C
015	Hostile Vehicle	Public Domain	Likely (L3)	Catastrophic (C1)	A	Unlikely (L4)	Severe (C2)	B
016	Small Arms Attack - Firearm	Public Domain	Unlikely (L3)	Catastrophic (C1)	B	Unlikely (L4)	Severe (C2)	B
018	Small Arms Attack – Melee Weapon	Public Domain	Likely (L3)	Severe (C2)	B	Unlikely (L4)	Severe (C2)	B
019	Aerial-borne Attack	Public Domain	Almost	Major (C3)	D	Almost	Major (C3)	D
020	Chemical, Biological or Radiological Attack	Public Domain	Almost Unprecedented (L6)	Catastrophic (C1)	C			
021	Threats and Hoaxes	Public Domain	Likely (L3)	Moderate (C4)	C	Likely (L3)	Insignificant (C6)	D
022	Direct Civil Disorder & Protest	Public Domain	Likely (L3)	Minor (C5)	C	Likely (L3)	Insignificant (C6)	D
023	(Attempted) Suicide	Public Domain	Likely (L3)	Severe (C2)	B	Unlikely (L2)	Moderate (C4)	C

3.2.2.1 Summary crime assessment

CPTED strategies are informed by a risk assessment of the criminal environment of the site. A full crime risk assessment, including incorporation of data from the Free to Be: Sydney project, has been conducted for the Central Precinct SSP study as part of the Summary Security Risk Assessment (not for wider release). **Section 3.3** of this report provides an overview of risk ratings, including for crime, as determined by the Security Risk Assessment.

Key findings of the Crime Risk Assessment include:

- Central Precinct is located in a generally high crime area, which is partially due to the large number of workers and non-resident visitors of the area.

- By far the most common crime category recorded in the statistical area containing and immediately surrounding Central Precinct are offences relating to theft and drugs.

- Theft from person is the most likely type of theft to occur that is relevant to the public domain of Central Precinct.

- Of violent offences, assault is the most common, with non-domestic assaults relevant to the Central Precinct's public domain representing 60.5% of all assault-related incidents.

- While most crime categories show downward trends in the suburbs surrounding Central Precinct, sexual offences, drug offences and incidents of intimidation, harassment and stalking have seen an increase over the past nine years.

- Qualitative reporting identifies Central Precinct as one of the most unsafe locations in Sydney for vulnerable people, especially young women, with high rates of disorderly conduct, intimidation, harassment, stalking, and drug and alcohol abuse.

- Incidents of assault, theft, malicious damage and anti-social behaviour are almost certain to occur at Central Precinct and require adequate mitigation controls.

- The design of Central Station and its surrounding area, in particular a lack of lighting, are widely cited as contributing to a perceived lack of safety in the area. This makes CPTED considerations essential for the Central Precinct.

3.2.3 Summary design assessment

The design assessment of the Central Precinct Reference Master Plan has focused on the strategic level to determine the broad adherence to CPTED principles. It also assesses the ability to practically implement CPTED measures during the subsequent progression of the design of the Central Precinct and component sub-precincts. It is recommended that further, more detailed, CPTED reviews are undertaken as the design of the Central Precinct develops.

The key reference document used for this design assessment is the Central Precinct Reference Master plan based on the documents issued to State Design Review Panel 8 (29 Oct 2021) prepared by Tyrell Studio for TfNSW.

Design of the public domain varies throughout the Central Precinct. The application of CPTED principles should therefore be considered for the following public domain types which make up Central Precinct's public domain.

The current design plans for the Precinct as a whole support CPTED principles, as well as design best practices with gender-sensitivity in mind. The measures noted to be incorporated into the design include:

- Providing multi-use spaces including green spaces, wide multi-modal movement axes, active retail and hospitality frontages, and access points to public transport facilities

- Attracting different user groups (e.g. workers, residents, commuters, shoppers, recreational users etc.) that make it difficult for one user type to monopolise or dominate the public domain

- A clear Precinct perimeter supporting access control and delineations between public and private spaces within the site for operational management while maintaining an open nature of the Precinct with seamless transitions between zones

- Encouragement of commercial use with ground-level cafes, retail, bars, sporting amenities, shops and office buildings which foster activation, potentially later into the night than currently occurs

- Interspersing of the public domain throughout the Precinct, thereby distributing activation zones across the site and minimising isolation or 'dead' zones

- Variety of entertainment and recreational activities which encourage usage of the Precinct at daytime and night.

A detailed physical CPTED assessment of the Central Precinct design and public domain typologies is included in **Appendix D.**

3.2.4 Perceptions of safety

Perceptions of safety and security at a specific locality are not always aligned with, and at times can be entirely detached from, official crime statistics and incident reports. Additionally, as emphasised by multiple reports which have informed the summary Security Risk Assessment and this Strategy, many incidents of sexual assault and sexual harassment are not captured by official reports.

The Central Precinct Safety & Security Strategy, therefore, needs to accommodate the perceptions of users and go beyond the quantitative, risk-based application of physical security controls. This will enable efforts to directly target those perceptions of safety and security at the Central Precinct, particularly those held by high-risk groups (e.g. women and girls, LGBTIQA+, mobility-impaired) and people from various ethnic, linguistic and identity backgrounds.

This assessment has developed a model of factors influencing the perception of safety and security of the most vulnerable groups in the context of the Central Precinct public domain.

Figure 9: Factors contributing to perceptions of safety (Adapted from TramLab Toolkit)
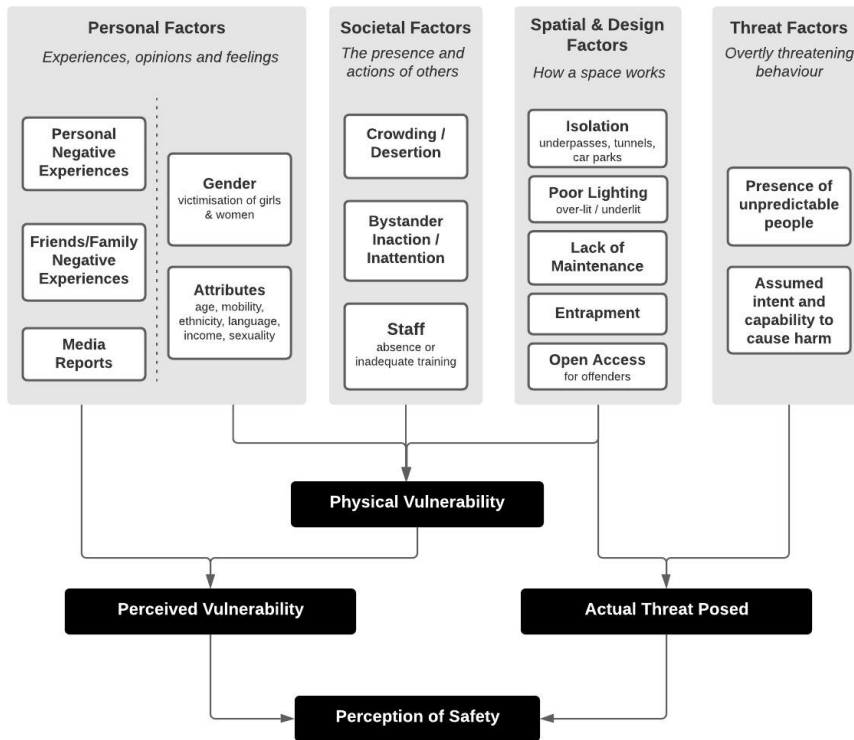
The model is based on consultations and expert reports, including:

- TramLab – Improving the Safety of Women and Girls on Public Transport

- Plan International – Free to Be: Sydney report and map

- She's a Crowd online mapping tool

- City of Vienna – Gender mainstreaming in urban planning and urban development

- United Nations Women – Safe cities and Safe public places.

The model is based on qualitative experiences of vulnerable people and shall be continuously adjusted and re-evaluated as new research and consultations are conducted.

Mitigating risk-based security concerns, as well as the subjective perception of safety at Central Precinct, require a holistic approach that adequately addresses complex underlying physical, operational, societal and personal elements.

3.3 Methodology – developing a Central Precinct safety & security strategy

3.3.1 Holistic approach to safety and security

A key objective of the Strategy is to apply a holistic approach to safety and security at Central Precinct and outline a diverse set of mitigation measures that can adequately address issues and perceptions of safety and security at Central Precinct.

The component controls and mitigation measures of the holistic safety and security strategy are modelled below.

Figure 10: Holistic safety & security approach
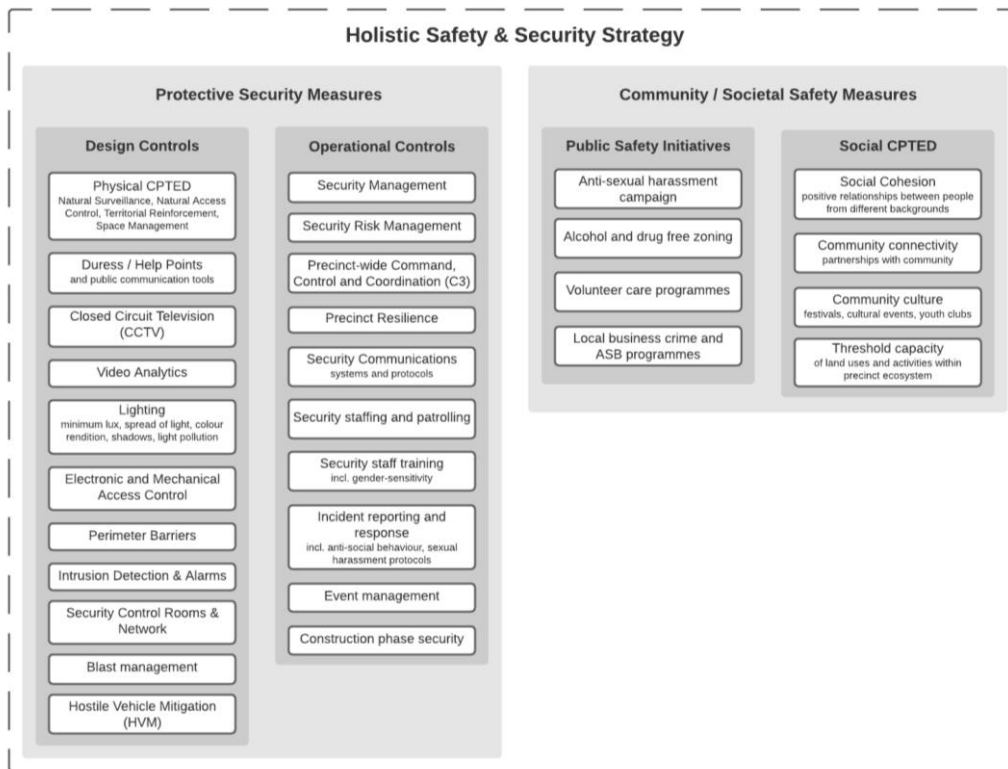
The listed control and mitigation measures in this report are not exhaustive. Continuous review and updates shall be conducted to ensure the inclusion of additional inputs from safety and security stakeholders, Central Precinct users and advocates for at-risk groups.

3.3.2 Public domain safety and security controls

Safety and security for the Central Precinct rely on a harmonised approach between the public domain and individual facilities. Consistent and cohesive safety and security design will enable the development of mutually supportive controls that address risks to users, and public domain assets and operations, and address perceptions of a lack of safety and security at all hours.

The security requirements for each site within Central Precinct are unique, based on the scale and nature of activity, but will be aided by an effective set of safety and security measures for the surrounding area.

The design and operation of Central Precinct must be flexible and scalable so as to be responsive to changes in the threat and risk environment, and to the varying nature of activities occurring in the public domain.

Table 8 details the recommended safety and security-specific controls that will form the basis of the security approach. The table indicates whether controls are design or operational in nature, whether they prevent or mitigate security risk, and the relevant security objective they fulfil.

The performance requirements of controls shall be determined based on the site-specific context in subsequent design phases.

Performance requirements for TfNSW facilities within Central Precinct and any zones directly interfacing with TfNSW facilities are to conform to the TfNSW Surface Transport Fixed Infrastructure Physical Security Standard (T MU SY 20001 ST). The extent to which TfNSW standards are applied within areas of the Central Precinct public domain which does not directly interface with TfNSW facilities shall be determined in subsequent design and operational planning.

Table 8: Baseline security controls for public domain and building interfaces

Security Control	Security Input	Objective	Preventive / Mitigative
Blast Resilience	Design	Impact reduction	Both
Closed Circuit Television (CCTV)	Both	Deter, Detect, Respond	Mitigative
Crime Prevention through Environmental Design (CPTED) – Physical	Design	Deter, Detect, Delay	Both
Electronic & Mechanical Access Control (incl. intercoms)	Both	All	Preventive
Hostile Vehicle Mitigation (HVM)	Both	Deter, Delay	Both
Intrusion Detection & alarms (incl. duress)	Both	Detect, Respond	Preventive
Lighting (controllable)	Both	All	Both
Perimeter barriers	Both	Deter, Delay	Preventive
Security communications	Both	Respond	Mitigative
Security management	Operational	All	Both
Security staffing & patrols	Both	All	Both
Vehicle access control	Both	Deter, Delay, Detect	Preventive
Video analytics (e.g. crowd density, left items, facial recognition)	Both	Detect, Respond	Preventive
Security command centre and control rooms	Both	Detect, Respond	Both
Provisions for NSW Police Force	Both	Deter, Detect, Respond	Both
Construction security	Both	All	Both
Public safety initiatives and social programs	Operational	All	Both

3.3.3 Safety and security planning requirements

Design planning for new developments within Central Precinct will consider:

- Delineation of boundaries between the operator of Central Precinct public domain and landowners / developers.

- The nature of facilities located on ground levels of new developments and their interface with Central Precinct's public domain. While developments shall have the ability to design and operate their facility consistent with their risk context, appetite and management approach, integration with the public domain to minimise gaps (and overlaps) and ensure cohesiveness and coordination is essential.

- Providing an appropriate security posture to accommodate variations in use during varying operating modes. Designs shall minimise the need to rely on temporary overlay or retrospective enhancements of safety and security features.

3.3.4   Precinct master planning

A Central Precinct Security Master Plan will be developed to provide the overarching guidance, direction and requirements to meet agreed obligations for safety and security at the Central Precinct.

The Master Plan will be focused on public domain requirements but will also set down the requirements for development proponents to positively contribute to maximising safety and security of the public domain at the building interface.

The plan shall address the following, at a minimum:

- Identification of all precinct stakeholders and lines of delineation for security design and operational planning

- Intra-precinct communications capabilities and protocols for effective command, control and coordination

- Security design guidelines to set the performance objectives of controls for the public domain

    o   Lighting and CCTV

    o   Access control requirements

    o   Approach to CPTED

    o   Security signage

    o   Security systems integration

- Capabilities of facilities to rapidly respond to increases in security threat or alert levels.

The Security Master Plan shall build on the guidance provided in the Strategy.

3.4 Recommendations – design and masterplan

3.4.1 Public domain safety and security design concept

Safety and security design for Central Precinct public domain needs to support development of welcoming and activated spaces for all users and generate positive perceptions of safety and security. The design shall provide a strong baseline to address risks, issues and concerns of users, such that operational measures and initiatives can be effectively and efficiently overlaid to further enhance safety and security.

A key focus of the Strategy is to ensure solutions are risk-proportionate, innovative, and integrated with Central Precinct operations. The design approach shall reflect a response to potential risks that is effective and robust, but not unnecessarily obtrusive such that it detracts from the welcoming nature of the site and its activities.

The Strategy requires that the Central Precinct design:

- Is flexible and scalable so as to be responsive to changes in the threat and risk environment, and to the varying nature of activities occurring in the public domain and the requirements of the Precinct over the foreseeable future.

- Reflects an understanding of the security risk exposures (as detailed in the Central Precinct Security Risk Assessment) and implementing controls and management actions to mitigate these to levels considered 'As Low as Reasonably Practicable'.

- Addresses risks in relation to the public domain through practical implementation of Crime Prevention Through Environmental Design (CPTED) principles. The design and operation of the Central Precinct shall demonstrably incorporate features that aid natural surveillance, lighting, natural access control, territorial reinforcement; site maintenance and management.

- Use technical and physical controls in a holistic and coordinated approach to meet risk requirements without over-engineering or over-provisioning.

- Support security personnel, police and operator personnel in maintaining a high quality of service provision in relation to monitoring, controlling and responding to issues.

- Provide input to social initiatives and provision of services that may influence the actual or perceived sense of safety and security.

- Considers use of emerging (but proven) security technologies. Security design should aim to implement a technology-driven solution with systems and tools operated within an integrated network architecture by a comparatively small number of highly trained and skilled personnel. The design shall demonstrate flexibility to integrate emerging technologies in the future.

3.4.2   Integration of security into design

Design integration between safety and security and other design disciplines is required as part of ongoing design planning of the public domain. Potential areas where inputs may be required as outlined in the table below.

Table 9: Safety and security inputs to design process

Design Element	Security Input
Site layout	Orientation of buildings and facilities to maximise CPTED opportunities; advise on security management requirements that may influence the use or function of specific site areas. The placement and selection of social infrastructure for community use will also require safety and security input to ensure these support, and are supported by, CPTED and wider safety and security needs.
Building construction	Resistance and resilience of building materials to deter risks or minimise impacts (e.g. vandalism, graffiti).
Pedestrian and vehicular movements	Security controls to be matched to the paths, desired lines, circulation and activities of site users. For vehicles, the principal form of mitigation (either from ramming, unauthorised access or intrusion or vehicle-based explosive incidents), is to create maximum physical separation from vulnerable locations, known as stand-off distance. Decisions regarding vehicle access and routes around the Precinct and on the OSD deck will require specific security input to determine the security risks to infrastructure and to Precinct users.
Zoning and separation	Zoning and separation of Precinct areas in accordance with sensitivity / criticality requirements and the layering of access controls. This shall effectively separate public areas from operational areas and protect valuable assets.
Landscape design	Provide input to address CPTED requirements (lighting, CCTV) and incorporate HVM through integrated bollard design or landscaped elements. The physical integration of security into landscape design, e.g. use of smart poles, digital displays and wayfinding, is an important feature of good public space design.

3.4.3   Crime Prevention through Environmental Design – Physical

The intent arising from the Crime Prevention Through Environmental Design (CPTED) assessment process is to identify good practice already in the design and provide recommendations for mutually supportive measures that can be incorporated into the design of the development and its immediate surrounds, directly enhancing security of the Central Precinct.

The Central Precinct design masterplan is at an early stage and is already demonstrating positive incorporation of CPTED guidelines. As the design continues to develop, and further detail is incorporated, the following recommendations will embed deeper in the Central Precinct State Significant Precinct (SSP) design.

The following CPTED recommendations should be read in conjunction with the design assessment included in **Appendix D**.

3.4.3.1   Natural surveillance

Natural surveillance plays an important role in safety and security. Building shape and orientation may be influenced to minimise recesses and support clear sightlines by opening up a building to its surroundings.

Cleaning up and simplifying spaces of clutter can substantially improve natural surveillance and allow people to be aware of illegitimate activity. Overly complicated and busy spaces can be difficult to follow and understand, therefore simplification can put people at ease in spaces and allow for greater passive and active surveillance.

Recommendations for the Central Precinct are:

- The landscaping of streets and open spaces should enable natural surveillance and clear lines of sight by minimising obstructive plantings between circa 0.6 metres above ground level to 2.4 metres

- The soft landscaping should use low-density plants or planting at spacing to ensure that as landscaping matures it does not give rise to concealment opportunities and does not restrict sightlines. Specified landscape maintenance procedures should be established

- Pedestrian entrances and exits to Central Station and buildings should be placed in locations where they are clearly visible from landscaped areas where possible and opportunities for lingering should be incorporated into landscaping to promote surveillance

- Pedestrian routes and the landscape should be lit after dark (to comply with Australian Standard AS/NZS 1158 for pedestrian areas). The use of adequate lighting will reduce the incidence of night-time loitering and the opportunity for concealment of offenders

- Seating should be in highly visible and well-lit areas. Lighting should enable surveillance both of and from these seating areas. However, as previously stated, lighting these areas well should not inadvertently create glare or contrast issues in neighbouring areas

- CCTV and lighting plans for the public domain shall be coordinated to ensure they are mutually supportive. These plans shall also be incorporated into the overall landscape plan

- Barriers around the upper levels of publicly accessible and semi-publicly accessible spaced should be visually permeable. This will create clear sightlines from and to the public domain or lower levels within buildings

- Consider the use and placement of concierges, building supervisors and other staff to increase offender risk and crime effort within the building footprint and around entrances.

3.4.3.2 Natural access control

Natural access control is intended to influence the flow of pedestrians and vehicles away from high-value targets, enhancing surveillance and control through the use of inherent design rather than relying on reactive mitigation.

Recommendations for the Central Precinct are:

- Pedestrian zones in areas close to vehicle movement should be clearly defined to increase the sense of pedestrian safety

- Changes in surface finishes can be utilised to define changes in land use or changes in ownership, or to denote changes between pedestrian zones and shared use zones.

3.4.3.3   Territorial reinforcement

Territorial reinforcement promotes social control through the definition of space and a sense of ownership. The principle uses the design of the physical environment to prompt territory or influence. An individual will develop a sense of territoriality for a space, eventually encouraging the individual to 'defend' their environment while offenders will find committing crimes more difficult or assess the cost/benefit of an illicit action less favourable. By clearly defining spaces within different parts of the development, clear expected behaviours can be set for visitors and staff, which works to encourage compliance.

Recommendations for the Central Precinct are:

- Wayfinding and signage should clearly indicate pedestrian routes and destinations and remain current with the development of Central Precinct. This instils confidence in legitimate users and deters loitering. The use of colours and integration of wayfinding and signage within other Central Precinct design elements can enhance perceptions of safety and security for vulnerable groups (incl. women and young girls).

- Users must be able to understand which routes they use and be able to quickly orient themselves with locating amenities. Good signage and wayfinding strategies reduce vulnerabilities by assisting people to use the safest routes and reduce ambiguity around legitimate access and use. The option to integrate maps with assistance points should be considered.

- The incorporation of public artwork and other design elements into the public domain (or public access areas) can support a sense of community ownership and policing of the built environment and deter offenders. Examples include the display of LGBTQIA+ pride flags, posters or wall/ground art.

- Part ownership of the public domain by people with various disabilities should be promoted by ensuring disability-specific provisions and accessibility of all Central Precinct public areas. Comprehensive integration of accessible routes in the public domain, including entry/exit points to the Precinct, further enhances safety and security for persons with mobility-impairments by allowing for route options to avoid areas or persons perceived as unsafe.

3.4.3.4   Target hardening

Recommendations for the Central Precinct are:

- Lighting, Closed-Circuit Television (CCTV) and other urban design elements should use vandal-resistant materials and hardware and enable ease of maintenance and repair to maintain quality and appearance

- Video surveillance for building exteriors can be strategically placed to remove blind spots or enhance surveillance in less activated areas or at access points to buildings or within pedestrian laneways

- Landscape design of buildings need to consider if hostile vehicle mitigation is required to protect pedestrian activity in open spaces. Wherever possible, landscaping elements are preferred as they have the ability to contribute to the design aesthetic while also performing a safety and security function

- CPTED measures for the public domain should be supported by effective electronic access control, intruder detection and other physical security measures of interfacing buildings.

- Horizontal flat surfaces should be avoided to the extent possible in publicly accessible areas to reduce opportunities to leave items including rubbish, bags or malicious devices. Sloping surfaces visible to users, including on vending machines and bollards are preferred. In line with TfNSW guidelines, sloping top designs should slope forward rather than backward or, failing this, be shaped as a dome.

3.4.3.5   Space management

Recommendations for the Central Precinct are:

- Maintenance of areas within Central Precinct gives off the perception that a space is respected and preserved with attention paid to it and encouraging users to do the same. Degradation of a site or buildings within it displays an apparent tolerance and lack of accountability or disorderly behaviour, thereby increasing the attractiveness for further incidents and degradation. The failure to confront offenders or reinforce the rule of law encourages crime and violence.

- The planning of maintenance procedures and guidelines for Central Precinct spaces will occur in operational planning phases and has not informed the current SSP reference master plan.

- Examples of maintenance include removing graffiti and litter, grooming of landscape and repairing fixtures. They shall also include the active monitoring for and timely removal of offensive posters and signs in the public domain (e.g. targeted against vulnerable groups such as the LGBTIQA+ community). The possibility to implement and promote a reporting mechanism of maintenance issues for members of the public to Precinct staff shall be considered.

- Amenities such as public toilets can support space management of the Central Precinct. These shall be located throughout the Precinct in spaces which are clearly and widely observable from the surrounding environment. Entries to public toilets shall be free of alcoves or recessed areas. Female public toilets shall clearly communicate a sense of territoriality over the space for legitimate users. The use of specific colouring or materials can contribute to a clear delineation of females-only spaces, thereby fostering territoriality. Colouring can also be used to provide positive signalling to LGBTQIA+ persons. Signage should clearly indicate the location of the nearest public toilet and the usage of security measures (incl. CCTV) in the public domain around such facilities.

3.4.3.6   Activation support

Recommendations for the Central Precinct are:

- Activate spaces that surround Central Precinct and link the development to adjacent land uses. People are attracted to vibrant public areas. This will enhance the perception of territorial reinforcement and space management.

- Provide a variety of entertainment and recreational activities which encourage usage of the Precinct at daytime and night.

- Facilities which attract different user groups (e.g. workers, residents, commuters, shoppers, recreational users, all genders, ethnicities etc.) that make it difficult for one user type to monopolise or dominate the public domain.

- Encourage commercial use with ground-level cafes, retail, bars, sporting amenities, shops and office buildings which foster activation, potentially later into the night than currently occurs.

- Enhance activation at existing Central Station locations identified as vulnerable spots (incl. Eddy Avenue and Pitt Street sidings, Prince Alfred Park, Chalmer Street exit, Henry Deane Plaza).

3.4.3.7 Collaborative planning

As with the development of the wider security infrastructure design, collaborative design and operational planning between the Central Precinct designer and operator, developers and key stakeholders is required for CPTED, on the basis that:

- Central Precinct promotes movement between the public domain and development sites such that consistency of approach and application of an agreed baseline of safety and security measures is required

- Displacement of security risk events may occur, should potential offenders identify variances in security arrangements between sites

- Given the proximity and inter-operability of Central Precinct, a weakness in security design or ongoing security management at one site could result in significant, indirect impacts from risk events affecting other areas of Central Precinct.

3.4.3.8 CPTED for individual developments at Central Precinct

Design of all developments within the Central Precinct shall involve detailed consideration of safety and security to address CPTED requirements including:

- Provide active frontages and active uses along all public space frontages, including spaces that are privately and publicly owned or managed

- Ensure buildings are designed to contribute to the natural surveillance of adjacent streets, laneways and public space

- Provide direct and well-lit access for building users

- Coordinate the lighting plan with the landscape plan to promote surveillance opportunities

- Ensure that building entry points are within clear sight of a public street frontage

- Provide clearly defined and defensible separation between public and private areas, such as between lobbies and upper-level residences and workspaces

- For residential buildings, locate the most active rooms, living rooms, kitchens and balconies to overlook the public domain and communal outdoor spaces

- Provide reasonable measures to limit the ability for items to be thrown or blown down from balconies into the surrounding public domain

- For commercial and mixed-use buildings, ensure retail or active uses on the ground floor open directly onto the street and have a clear visual connection with the street. Street-level windows are to be clear glazed

- Development should ensure that the precinct's public domain CCTV coverage is not obstructed or compromised in any way

- Utility structures such as electrical substations are not permitted in the public domain

- Minimise alcoves or other places of concealment on building exteriors

- Ensure individual developments and buildings are accessible and consider the safety and security needs of vulnerable persons.

3.4.4   Security management system

A Security Management System (SMS) shall be provided to operate as a single centralised system for the public domain that is substantially automated. The SMS will be the critical node for command, control, monitoring, administration and integration of all electronic security systems and selected building systems installed for the Central Precinct public domain.

The system shall provide alarm monitoring, alarm inputs, output control, operator interfaces and remote management to integrate the following systems across the designated wide area network:

- CCTV and associated video analytics

- Access control systems

- Intrusion detection systems

- Intercoms, duress points, help points and other assistance-related systems

- Vehicle and pedestrian barriers

- Hostile Vehicle Mitigation (HVM)

- Select building and other services alarms.

3.4.5   Provision for NSW Police Force

Consultation with the NSWPF highlighted the need for dedicated police parking spaces at the Central Precinct perimeter. These parking spaces should be highly visible and marked as police parking spaces. The mere presence of a sign indicating police presence, or the presence of a police car assists in deterring crime. Therefore, police parking spaces should be considered in vulnerable locations, including but not limited to: Eddy Avenue and interface with Belmore Park, Prince Alfred Park, Elizabeth Street and eastern sidings, Western Forecourt, Goods Line.

Consultation with NSWPF further raised the possibility of integrating a small to medium-sized police office within the Central Precinct public domain. Located at ground level with a shop front, the office would provide the NSWPF with a permanent or semi-permanent presence and enhances the safety, perceived and real, of users at the Central Precinct. The office should be provisioned with holding cells and the ability to move a detained person from TfNSW areas to the holding cells and to the police vehicles (either parked in the basement or at the Central Precinct perimeter) via back-of-house connections without interacting with the public, residents, or office workers.

Furthermore, the Security Command Centre shall incorporate system requirements for connectivity with the NSW Police Force information network and provide operator positions for use by police personnel. This will enable direct police support and operational command for incidents at Central Precinct.

3.4.6   Security uninterrupted power supply (UPS)

A dedicated Uninterrupted Power Supply (UPS) should be provided for the security services equipment. The security UPS is to be fed from the essential services power supply to ensure reliable sourcing of power to all security equipment.

3.4.7   Intercom, duress and help points

Staff, precinct users and visitors require the ability to call for assistance in an efficient and timely manner. Each system will perform a specific function and the positioning of points will reflect the intended use by Precinct users and site personnel.

Intercoms shall be installed principally to enable Precinct security to validate access requests by users into specific areas, such as loading docks and control rooms and at building entries after-hours.

Duress points shall be installed at locations where Precinct staff are in public-facing locations and may feel threatened during interactions with the public (e.g. reception and concierge positions).

Help points should be installed to enable site users to call for security assistance in areas where there is the potential to be isolated or threatened, particularly outside business hours. Help points are principally for Central Precinct's public domain.

Help points should be supported by signage and consist of a security intercom, lighting (to illuminate the immediate area), and CCTV coverage (either integrated within the help point or from a camera position nearby which has an unobstructed view of the help point and its surrounds.

Design of help points shall further consider accessibility by persons with mobility issues or disabled persons. It shall further provide clear instructions on how to use the help point to call for assistance which is suitable for people from diverse linguistic and ethnic backgrounds (e.g. display of multiple languages, braille etc.)

The use of clearly signed help points will promote a secondary presence of security in addition to the active presence of personnel and other precinct users.

Locations of help points should include:

- Parking areas, at reasonable intervals in car parks, ideally near to vertical transportation).

- Large plaza areas

- Bridges and connections, where they are of a length where isolation or lack of natural surveillance may be an issue.

Specific locations will be informed by analysis of pedestrian flows and assessment of high-risk areas.

The type and functionality of help points should consider the possibility of integrating with other systems installed for the public domain, such as in smart poles also comprising:

- Interactive information displays and screens (e.g. Precinct maps)

- CCTV and lighting

- Public Address (PA) systems

- Wi-fi hotspots

- Public charging stations.

3.4.8   Closed-circuit television (CCTV)

The Central Precinct will have an extensive digital CCTV system covering the public domain, including all points of access and egress.

CCTV will be used as a proactive security management and provide post-event investigation and analysis.

The objective of the CCTV system is to:

- Support Precinct security through timely detection and verification of activities of concern

- Support response to incidents and post-incident investigation

- Support detection of hostile reconnaissance and other potential threats

- Complement security patrolling, tracking and interdiction

- Provide a degree of deterrence to potential offenders

- Contribute to safety outcomes.

The principles outlined in **Table 10** will be drawn on to ensure a risk-based approach to CCTV deployment and integration with other security measures.

The system shall incorporate fixed, multi-lens and Pan-Tilt-Zoom cameras deployed to achieve a specific performance objective such as to provide situational awareness, presence detection, recognition or identification. The positioning of cameras shall be set through detailed analysis of pedestrian flows, identification of vulnerable areas, and considerations of the deterrent offered by CCTV to aberrant behaviours and the effect on user perceptions of safety and security.

All cameras shall be high-resolution, colour and capable of operating in all light conditions for the given environment. External cameras shall be housed in vandal and weatherproof housings to minimise the potential for damage and degradation.

Table 10: Use of CCTV to achieve security objectives

Security Objective	Description
Deter	Providing a visible deterrent to potential offenders by the presence of a monitored CCTV system with appropriate signage and advertising. The presence of CCTV can discourage various types of crime or behaviour that are considered undesirable in the Precinct. Conversely, visible CCTV coverage serves to create a perception of a secure and safe environment for residents and users. Obvious signage informing on the extensive use of CCTV throughout the Precinct can have a further deterrent effect.
Detect	Detecting suspicious activity through the use of video analytics, alerts and live monitoring of a CCTV system by: – conducting 'virtual security patrols', discreetly checking many locations in a short time – prioritizing active monitoring of high-risk zones – using video analytics to alert security staff to unusual activity in restricted zones, unattended items, sudden movements of large numbers of people, or attempts to tamper with cameras or the surveillance system

Security Objective	Description
	– verifying that an incident is occurring after a report or alarm.
Respond	Through the use of alerts and live monitoring of the system, aiding the response to an incident by: – monitoring from a safe location and providing information about the incident, including: – the location, nature and extent of the incident – the immediate response required (fire, police ambulance) – safe entrance locations – safe evacuation paths – recognising a suspect moving in or through an area and tracking their movement – providing responding authorities with direct access to live and recorded CCTV.
Recover	Reviewing recorded CCTV footage after an incident to find out what happened, who was involved and inform adjustment to risk mitigation measures. This will include: – views before, during and after the incident with enough detail to recognise those present and what happened to a required evidentiary standard – images to identify all people present (e.g. victims, witnesses and suspects) – providing reassurance to the user population who will recognise that CCTV is a valuable security risk treatment.

The system shall incorporate fixed, multi-lens and Pan-Tilt-Zoom (PTZ) cameras deployed to achieve a specific performance objective such as to provide situational awareness, presence detection, recognition or identification. The positioning of cameras shall be set through detailed analysis of pedestrian flows, identification of vulnerable areas, and considerations of the deterrent offered by CCTV to aberrant behaviours and the effect on user perceptions of safety and security.

The CCTV system shall be integrated with access control systems to verify intrusion and access alarms.

The system shall be operated in accordance with data protection legislation at all times. All personal information shall be appropriately protected.

The experience gained from CCTV operations and best practice at the current Precinct shall inform considerations for the future site.

CCTV installation at interfaces between the Central OSD with transport facilities as well as any transport-related facilities themselves shall be governed by the relevant TfNSW Public Transport Closed Circuit Television (CCTV) Functional Requirements Standard (T MU SY 10001 ST). This Standard includes specific requirements for areas immediately external to rail facilities.

The Central Precinct shall also pursue opportunities to integrate CCTV systems operated by external entities on the periphery of Central Precinct. A pertinent example is coordination with City of Sydney on CCTV operation at Belmore Park, for which further consultation should be conducted.

3.4.9   Video analytics

Video analytics will be utilised to strengthen identification of security violations or suspicious activity across the site. Capabilities will be further developed based on individual camera objectives, but may include:

- Person tracking

- Face recognition

- Automated Number Plate Recognition (ANPR)

- Tripwire or trespass (zone entry and exit violations)

- Loitering

- Crowd detection

- Tailgating (multiple entries on one access)

- Queue forming

- Object counting (people and vehicles)

- Illegal parking detection

- Left items

- Missing items.

The design of CCTV architecture shall also enable the addition of CCTV cameras to view newly identified areas of vulnerability and future advancements in video analytics, including artificial intelligence. Use of analytics shall be mindful of privacy requirements.

The specific requirements for CCTV performance and technologies will be further developed during design development.

3.4.10 Transmission of CCTV to external agencies

Systems and protocols shall be in place to support the transmission of CCTV imagery to authorised agencies for investigative purposes. Timely provision of imagery is an important tool for the collection of evidentiary material and longer-term deterrence of offences and unauthorised activities within Central Precinct.

3.4.11 Lighting

Poor illumination has been cited in the *Free to Be: Sydney* project as being a major factor in making Central Precinct an unsafe environment.

Special emphasis should therefore be placed on the provision of security lighting for the purposes of deterring and detecting criminal or unauthorised actions. Lighting should comply with all relevant standards. The objectives of security lighting are often identical or similar to work health safety requirements. The position and illumination levels selected should be determined with both objectives in mind.

Public domain lighting shall be coordinated with the requirements of the CCTV system.

The following public domain areas should be subject to lighting considerations to ensure opportunities for visibility and surveillance, including the technical requirements of the CCTV system, are maximised at night-time:

- Central Precinct pedestrian arrival points (incl. access bridges)

- Plazas, pedestrian routes and desire lines

- Expected high-activity areas in the public domain.

- Existing vulnerable spots identified at Central Station (incl. Eddy Avenue and Pitt Street sidings, Chalmers St exit, Prince Alfred Park sidings, Henry Deane Plaza).

With reference to Monash University's Lighting Cities project, the mere maximisation of illumination does not directly correlate to increased feelings of safety for women and girls. It is preferable that a minimum lux level is used to provide a baseline that can be exceeded in support of the needs (not limited to safety and security) of an area.

Lighting should be designed to provide a spread of light, clear colour rendition, avoid deep shadows and minimise light pollution. A layered approach using various light sources is often used to provide a welcoming environment.

Luminaries should be sturdy and resistant to vandalism, tampering and adverse weather conditions.

A light pollution assessment was conducted by Arup as part of the Central Precinct SSP study requirements. The report recommends the development of a Night Time Masterplan (NTM) and Night Time Vulnerability (NTV) to ameliorate concerns surrounding the safety of users, in particular vulnerable groups, after dark as the Central Precinct design and construction phases progress. IR fully supports the development of these reports.

For internal areas, which are accessible to the public, the lighting control system shall be integrated with the SMS. A security alarm or CCTV motion detector activation shall trigger the lighting to be switched on in the relevant zone/area to allow the security operator to view local CCTV cameras to potentially identify the cause of an alarm.

For TfNSW facilities or areas interfacing with TfNSW facilities, relevant lighting sections outlined in Surface Transport Fixed Infrastructure Physical Security Standard (T MU SY 20001 ST) apply.

Suggested minimum illumination levels based on the assessed requirements are provided below.

Table 11: Security lighting performance objectives

Functional requirement	Lux Levels
General monitoring	3 lux
Intrusion detection	5-10 lux
Identification of a person, vehicle or object for evidentiary purposes	15-20 lux

3.4.12 Electronic access control and alarm system (EACAS)

Central Precinct will have an Electronic Access Control and Alarm System (EACAS) to manage access control and intrusion detection and duress alarm functions in nominated locations where restricting access to authorised persons is required.

For the public domain, EACAS will primarily be applied to control access into and within operational (i.e. back of house) areas. Responsibility for access control to building lobbies, retail and other leased spaces will be the responsibility of the landowner or tenant but may be integrated with the precinct-level access control system.

EACAS must be able to be applied to operable barriers such as doors, speed gates, roller shutters, gates, boom gates, automated bollards, and to lift systems.

EACAS should support multiple reader and credential types, technologies, and formats to allow interoperability with tenant technologies as required, and potentially with systems credentials used for other Central Precinct facilities. EACAS must allow dual-factor authentication.

Access rights associated with a presentation of an electronic credential (card/token) must be checked for validity against a database of programmed access privileges (i.e. the Security Management System). Access rights must be programmed in a variety of ways to allow flexibility.

Access systems must be able to be audited, access to specific doors or areas reviewed and user-defined management reports generated. The system must allow a full audit trail of entry, egress, alarm and anomaly events.

The EACAS must have alarm states for 'Access Denied', 'Door Forced' or 'Door Open Too Long' (DOTL) alarm states.

3.4.13 Mechanical access control

Mechanical access control may be applied to doors, gates, services lids, equipment racks, cabinets, vehicles etc., as required, to areas considered to be neither critical nor sensitive (and therefore not requiring an audit trail of access to each door). A restricted profile keying system shall be used.

Mechanical key switch overrides to the EACAS should be installed above doors or in other relatively inaccessible positions to reduce visibility and increase the difficulty of unauthorised tampering.

Mechanical keys should be provisioned using an electronic key management system (EKMS) and key safes, overseen by Central Precinct security and/or facilities management teams.

3.4.14 Intrusion detection and alarms

The EACAS must provide intrusion alarm functionality (or be integrated with a secondary intrusion detection system), including entry and exit delays where intruder detection sensors are connected to system inputs. Intrusion alarm components, such as volumetric motion sensors and magnetic reed switches on doors, must be fully integrated with the access control aspects of the system.

As required, intrusion detection shall be integrated with other security systems to provide effective monitoring and response, e.g.:

- After a DOTL or Door Forced alarm is acknowledged, the sounder can be deactivated automatically

- When an alarm is triggered, switch on the lights installed within the alarmed area

- Interface with the CCTV System to automatically display cameras where alarms activated (according to pre-set protocols) and/or allowing the recording frame rate of the CCTV camera covering the alarmed area to increase.

Installation of intrusion detection capabilities is especially important at interfaces between the public domain and the rail corridor, or to rail-related restricted areas. Intrusion detection may also be required for a variety of building structures, component sites, transport facilities, and environments within Central Precinct, including:

- Critical infrastructure facilities

- Electrical substations

- Water pump stations

- HV power

- Fence lines and gates

- Bridges.

The functionality, technologies and management of intrusion detection will be determined in consultation with TfNSW and the rail operator. Detailed SRAs completed in subsequent phases shall determine the risks to be treated by electronic intrusion detection systems, and the related systems and works needed (e.g. lighting, cabling, buffer zones, drainage etc.)

3.4.15 Hostile vehicle mitigation (HVM)

Hostile vehicle mitigation (HVM) will be used to physically prevent unauthorised access by vehicles into Central Precinct. The principal purposes are to combat attempts to use a vehicle as a weapon to ram persons or structures, or to substantially disable a vehicle or otherwise prevent a vehicle approaching Central Precinct buildings or assets inside a defined setback distance (for the subsequent detonation of a vehicle-borne improvised explosive device (VBIED)).

HVM also performs a deterrent function by visually hardening a site and making it less attractive as a target.

Concurrent to the minimisation of vehicular security risks, the design of HVM must:

- Not unduly impede pedestrian flows

- Remain consistent with the design aesthetic of Central Precinct

- Consider, wherever possible, alternative solutions to bollards such as level changes, mature tree planting, planter boxes, street furniture, low walls, raised footpaths etc

- Seek to minimise the ongoing maintenance and staff involvement required for their use or operation

- Enable day-to-day Central Precinct operations to occur without undue hindrance

- Represent a subtle and non-overt response to the risks of hostile vehicle incidents.

A detailed assessment of the vulnerability of Central Precinct to hostile vehicles shall be completed in subsequent project stages to enable incorporation of HVM requirements into the design. The options to be used to provide hostile vehicle mitigation include:

- **Design** – Use of level changes such as stairs and raised slabs (with access ramps as necessary) to prevent vehicles being driven into a vulnerable area

- **Landscaping** – Use of mature trees (in keeping with the design aesthetic) to deter vehicles from entering pedestrian areas at speed

- **Architectural elements** – Physical elements such as planter boxes, seating, concrete or sandstone blocks or bollards that achieve the necessary resilience to vehicle impacts (to be specifically assessed and specified as part of design development)

- **Bollards and other security-rated barriers** – Purpose-designed elements that achieve a defined performance requirement to withstand vehicle impact. This can include fixed bollards or removable and retractable bollards or blockers with manual, semi-automatic or automatic operation. Bollards may be security rated (to IWA14-1 or PAS68) where required.

The performance requirement of individual elements shall be determined during detailed design, including the vehicle dynamics (mass, speed, angle of attack), site conditions (e.g. slab depth and penetration required for installation) and spacing of HVM elements. The performance requirement will be informed by a vulnerability assessment addressing:

- Threats posed by varying road-going vehicle types

- Approach routes and achievable vehicle speeds by vehicle type

- Location of pedestrian areas relative to vehicles

- Specific vulnerabilities posed for areas of Central Precinct (e.g. the presence of critical infrastructure)

Detailed requirements shall be developed with reference to the following documentation listed in **Appendix C.**

3.4.16 Vehicle access control

Although Central Precinct is generally a car-free zone, it will be necessary for some vehicles to have access to some of Central Precinct's public domain areas, including for deliveries, rail operations, waste management, maintenance, and emergency access.

Vehicles can pose a significant safety and security risk to persons.

Comprehensive vehicle access control planning is essential to ensure only authorised vehicles are allowed access to defined areas of the Precinct and to minimise vehicular-related risks.

Vehicle barriers shall be installed to prevent unauthorised access into the public domain of Central Precinct with active barriers used at vehicle access points necessary to support Precinct operations.

Active barriers shall be controlled by an EACAS system linked to an Automated Number Plate Recognition (ANPR) system. Access is predicated on the vehicle driver being in possession of valid credentials, being pre-registered or being remotely granted access by the Precinct Security Command Centre.

All vehicle registration plates shall be captured by the ANPR system and checked against a database or used to record all vehicle access and egress events.

Additional vehicle screening may be necessary for restricted areas or during periods of heightened threat or special events.

Combined with physical controls, it is necessary for a strict process to be followed to control vehicle access. These include, but are not limited to, plans for delivery management, visitor management, maintenance, waste collection, and emergency access management.

Under the master plan, autonomous vehicles are envisioned to assist users travelling within Central Precinct. The use of autonomous vehicles can have a positive impact on the safety and security of mobility-impaired people or persons who feel unsafe walking through the Precinct.

Additionally, further consideration should be given to the allocation of designated vehicle pick-up and drop-off points (PUDOs) for ride-share providers in and around the Precinct as part of the Central Precinct transport strategy. Safe and easily accessible PUDOs at Central Precinct will have a positive impact on safety and security, whether real or perceived, by providing Precinct users with multiple options to enter/exit the area safely. The locations of PUDOs should be clearly marked and advertised by signage, adhere to CPTED principles, and be covered by adequate lighting and CCTV.

3.4.17 Perimeter barriers

Perimeter barriers will be designed, deployed and managed to provide the ability to:

- Secure areas of the precinct perimeter, such as the rail corridor

- Secure individual facilities from the public domain.

Perimeter security should serve multiple purposes:

- Define the boundary of a site area. This reinforces the concept that the site is 'owned', and that entry and use of the public domain is subject to control and legitimate use

- Direct people and vehicles to controlled entry points

- Deter and substantially prevent attempts to breach restricted, sensitive, or critical areas of Central Precinct

- Support the prevention of suicide from bridges and other elevated positions.

Perimeter barriers include:

- Vehicle barriers and gates - manual, electronic access controlled and motorised

- Fencing and gates

- Walls and doors - manual, electronic access controlled and motorised

- Grilles - for ducts and openings between public and restricted access areas

- Shutters - manual, electronic access controlled and motorised.

Perimeter barriers shall be used to control access to the rail corridor, restricted facilities, and non-public locations within the site.

3.4.18 Blast management

A Precinct-wide blast mitigation strategy shall be developed as part of subsequent project stages to ensure the consistent, integrated and proportionate implementation of blast mitigation measures.

The preferred approach, wherever possible, will be to achieve sufficient stand-off so that structural reinforcement and fragmentation treatments (additional to that of typical deck and high-rise structures) is minimised.

In instances where stand-off distance between building structures and a secure perimeter cannot be achieved, blast mitigation design measures shall be implemented in the design phase to satisfy the outcomes of the risk assessment process.

The structural design of buildings, specifically to mitigate effects of explosive blast, is directly related to the explosive charge size and stand-off distances for vehicles.

A blast assessment shall be completed by a qualified blast assessor to define any/all blast mitigation requirements for Central Precinct. That assessment shall be informed by a detailed scope, drawing on Security Risk Assessment (SRA) findings, to define the specific areas of vulnerability to blast events and the relevant charge sizes.

Future blast management should be completed in consultation with TfNSW Security, Crisis and Emergency Management Branch.

3.5   Recommendations – planning framework

3.5.1   Safety & security management plan

An operational plan (e.g. a Safety & Security Management Plan) will be developed for Central Precinct to provide a robust and consistent approach to the day-to-day management of safety and security. The plan must be an operationally focussed document to be activated upon commencement of a 'steady state' of Central Precinct operations. The plan shall dovetail with the Central Precinct safety and security design.

The operational plan shall address:

- Roles and responsibilities for Central Precinct site management, control room operations and contracted personnel responsible for day-to-day management of safety and security within the Precinct.

- The roles and responsibilities of Central Precinct landowners and tenants.

- Mechanisms for safety and security communications for all entities within Central Precinct relating to business-as-usual, incidents and emergencies, including but not limited to:

- A Central Precinct safety and security working group

- Systems and fora for sharing of security intelligence and information (including with the rail operation and key external stakeholders, e.g. NSW Police)

- A framework of Precinct-level standard operating procedures

- Incident management guidelines for conceivable emergency scenarios (consistent with AS 3745)

- Coordination of stakeholder emergency plans (e.g. emergency services access points, deconfliction of evacuation routes and assembly areas)

- Testing and exercising regime for precinct-wide issues and incidents.

The plan must consider all facets of effective protective security shown in **Figure 11**.

Figure 11: Model security management framework
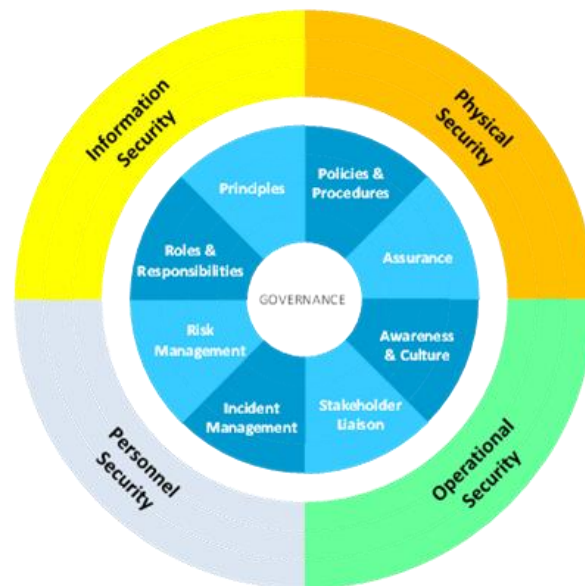
3.5.2   Precinct security command centre

A Security Command Centre shall perform the primary operational functions for the Central Precinct, including:

- Coordinating the overall operation to provide and promote safety and security for all users for all areas throughout Central Precinct's public domain, informed by an understanding of risks and residual vulnerabilities and concerns of users at various times of day and within various locations of Central Precinct

- Coordinating the activities of personnel responsible for safety & security on a day-to-day basis

- Monitoring and responding to alarms and alerts from installed safety and security systems

- Proactively monitoring the site's most vulnerable points. It is expected that Precinct personnel will maintain a highly visible presence to support users' perceptions of support and response

- Assist precinct management and stakeholders (e.g. police and emergency services) coordinate incident and emergency management

- Working collaboratively (for business as usual and events) with key stakeholders, including Central Precinct Management, NSWPF (specifically the PTC and Surry Hills PAC), Fire and Rescue NSW, Sydney Trains, the City of Sydney, Sydney Metro and TfNSW, particularly in the areas of traffic and transport management, crowd movements and people flow, and seamless security cooperation at the Precinct perimeter.

- Provide interoperability and support to local Security Control Rooms within Central Precinct buildings, supported by an integrated security communications network and command, control and coordination framework and protocols.

- Monitoring of social media for reports and broadcasts of incidents and user feelings about the Central Precinct in order to proactively respond to safety and security-relevant issues.

3.5.3   Precinct and shareholder control room integration

The Precinct Security Command Centre shall be integrated with other control rooms at Central Precinct (e.g. local building and rail operator control rooms) to enable:

- Shared monitoring (and potentially, control) of CCTV where the cameras provide coverage of a space of mutual interest to Central Precinct and another stakeholder, but is outside the demarcated boundary of one or both, such as:

    o   The periphery of a building

    o   Roadways and ramps providing common access

    o   A precinct space used to facilitate access to one or several buildings

    o   Transport connections that link directly to a precinct building

    o   Basement areas adjacent to a building core or loading area

    o   Both have visibility of electronic access control and alarm system (EACAS) points that define the boundary between the Precinct public domain and the stakeholder's area

- Direct communication between control rooms to support sharing of time-critical issues (e.g. tracking of a person, alerting to emerging issues)

- Access to automated number plate recognition (ANPR) data held by Central Precinct but which may relate to the user of a building

- Coordination of security guarding, patrolling and response activity.

All opportunities for systems integration shall be pursued to maximise the potential for sharing and coordination.

3.5.4   Security communications

Communication arrangements are essential to ensure that processes put in place to secure Central Precinct are effectively and efficiently managed. Radio communications will be the principal form of communication between control rooms and personnel within Central Precinct.

Stakeholder control rooms shall also be connected by a voice network (fixed telephone and mobile/VoIP) to ensure reliable and secure communications for the Precinct, and for stakeholders operating within Central Precinct.

3.5.5   Security staffing, training and patrolling

The Security Command Centre shall be staffed 24/7 in order to provide a security monitoring and response presence for the Central Precinct.

Patrols serve to augment the static presence of systems-based controls installed in the public domain. The primary objectives of security patrols are:

- The safety and security of precinct users, particularly during high-risk periods (e.g. when activity levels are low, and a sense of isolation may exist)

- The protection and integrity of assets

- The observation and reporting of any unauthorised, illegitimate, dangerous or suspicious behaviours and items

- Prevention of security incidents

- Deterrence of anti-social or criminal behaviours (but aligned with Central Precinct's broader approach to managing social issues such as homelessness).

Central Precinct security staff shall be adequately trained in their objectives, responsibilities and operational procedures. Quality of security staff and their ability to interact respectfully and effectively with Precinct users of various genders, sexual orientations, abilities, ethnicities, languages, and ages has been cited as essential to improve the perceptions of safety for vulnerable people

LGBTQIA+, disability and gender-sensitivity training, as well as training on dealing specifically with anti-social behaviour such as sexual harassment and offensive conduct is highly recommended for all staff at the commencement of their employment at the Central Precinct as well as at regular intervals. Security staff shall further be trained in cross-cultural communication to engage appropriately with and assist persons from diverse linguistic and ethnic backgrounds.

3.5.6   Event management

Central Precinct may in the future be the location of events held within the public domain or as part of special event transport arrangements which can draw crowds to the Precinct.

The holding of events with community or cultural backgrounds can significantly contribute to crime prevention by enhancing the sense of ownership of the Precinct. Culturally inclusive events shall form part of the social CPTED philosophy for the Precinct.

Compared to business-as-usual times, event periods can mean significant variability in patronage and usage of Central Precinct. This requires flexibility in the security treatments deployed to support and protect Precinct users.

Effective safety and security for events held at the Precinct relies on a harmonised approach between the public domain and the event site/space. The objective is for security treatments to be cohesive and mutually supportive so that risks to the event and the wider surrounding area are treated consistently and efficiently. Selection of security treatments should be supported by conducting an event-specific security risk assessment (ESRA). The ESRA should pay diligent attention to gender-sensitivity, anti-social behaviour and sexual harassment issues with the most vulnerable event users in mind. Gender-sensitivity training for staff member as well as the inclusion of dedicated safe spaces within the event perimeter should be considered.

Event management guidelines specific to Central Precinct should be issued to all relevant stakeholders likely to hold public events, defining what constitutes an event and outlining the planning process.

Guidelines should further be developed for events in the vicinity of Central Precinct for which the precinct acts as a major transport interchange.

To the extent possible, event safety and security requirements, and the locations where events and large activations may occur, shall be determined during design and planning stages to enable them to be designed in. Reliance on temporary safety and security overlay to support event requirements is discouraged.

3.5.7   Emergency management

A comprehensive emergency management plan shall be developed for the Central Precinct. This plan shall reflect the importance of Central Precinct as a major critical infrastructure and crowded place precinct.

The emergency management plan shall be a collaborative effort involving TfNSW, potential Central Precinct operator security team, Sydney Trains, and emergency services including FRNSW, NSWPF, SES, and Ambulance NSW, among others.

Coordination among component sites of the Central Precinct, TfNSW facilities, and adjacent areas is essential for emergency management.

A Central Precinct emergency management plan shall consider provisions of the NSW Counter Terrorism Plan, the NSW State Emergency Management Plan (EMPLAN), and the Sydney CBD Safety Sub-Plan.

Emergency management shall further consider the special needs of persons with disabilities or other mobility issues, who have been identified as a key vulnerable group in emergencies by the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability.

3.5.8   Public safety initiatives and social programmes

Perceptions of safety are influenced by the presence and implementation of physical and operational security controls and also by social factors. As such, social initiatives must play a central role in creating a safe and secure environment at the Central Precinct.

The City of Sydney's Community Safety Action Plan, and similar initiatives in other international cities, have had some success in supporting vulnerable groups to feel safe and be safe in public spaces and transport hubs. An effective long-term strategy for safety and security is contingent on implementing various initiatives to foster community connectivity and social cohesion and creating a welcoming precinct for the most diverse set of users possible.

Initiatives outlined below contribute to social CPTED principles as described in **Section 0** and are provided as a 'blueprint' for integrating social aspects into the solution to create a safe environment at the Central Precinct for vulnerable groups. Significant emphasis shall be placed on incorporating Central Precinct in wider City of Sydney activities, along with developing arrangements contextualised to the social environment and users specific to Central.

3.5.8.1   Anti-sexual harassment campaign

In October 2021, Transport for London (TfL) launched a campaign to tackle the issue of sexual harassment on its network. The campaign raises awareness of incidents of sexual harassment in order to combat the normalisation and under-reporting of such behaviour.

The campaign uses posters to provide consistent messaging across the TfL and UK national rail network and other advertising and communications to highlight a specific type of sexual harassment and educate transport users about how to report incidents and encourage reporting. Types of sexual harassment and definitions are highlighted in the posters including catcalling, public exposure, unwanted touching, staring, cyber-flashing, and up-skirting.

The posters display contact numbers for an emergency hotline, a texting service which users can send detail of an incident to, and an anonymous hotline specifically for sexual harassment on public transport.

Figure 12: Sample poster from TfL anti-sexual harassment campaign
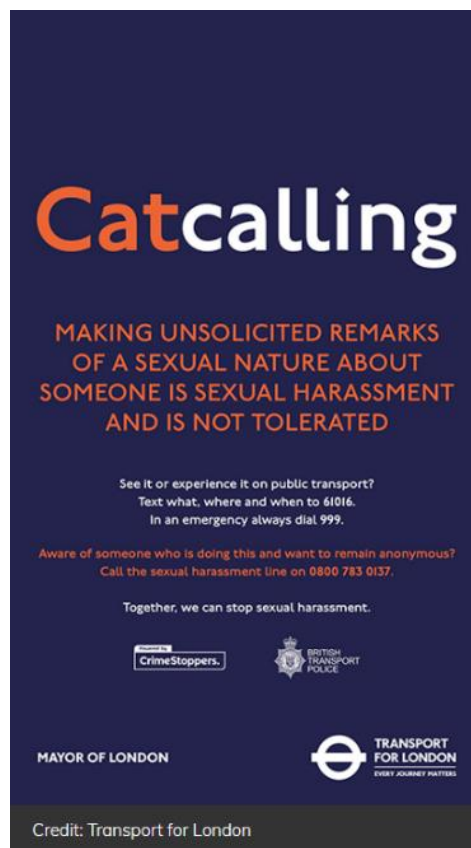
The personal experiences of young women indicate various forms of sexual harassment and behaviours (e.g. indecent exposure) are highly prevalent at Central Station. The proposed design of the Central Precinct, assisted by physical target hardening measures, will have a positive impact in alleviating some of these issues. However, design and built environment controls alone cannot by themselves eradicate feelings of being unsafe.

An active campaign to call out anti-social behaviour, including sexual harassment, in a high-incidence area such as Central Precinct can assist in deterring, detecting, responding to and recovering from such incidents.

In the context of Central Precinct, a 'Zero Tolerance' public safety campaign similar to the current TfL initiative may include the installation of posters in strategic locations of the public domain. These posters could display:

- Descriptions and reprimands of unacceptable behaviour towards vulnerable groups, especially young women

- Notices relating to the use of CCTV systems in the public domain and warnings about prosecution measures (supporting the actual deployment of CCTV)

- Encouragement for the public to report such incidents

- Relevant contact numbers including a NSWPF emergency hotline or Central Precinct number

- Potential inclusion of special anti-sexual harassment help lines, anonymous texting services or Central Precinct mobile application allowing users to message the location and nature of incident to security and support staff.

3.5.8.2   Smoke, alcohol, and drug free zoning

Creating smoke, alcohol and drug free zones at Central Precinct can assist in reducing the presence of persons which are perceived to be dangerous or detract from the cleanliness of Central Precinct (including due to intoxication, drug-use or the smell of smoke).

Implementation of these initiatives at Central Precinct can include:

- The provision of needle disposal units at access points to the Central Precinct. These should be monitored and regularly emptied by relevant authorities

- Installation of relevant signage and enforcement of Central Precinct's public domain as an alcohol free and smoke-free zone.

- Designated smoking areas can assist in preventing public littering of cigarette buds in Central Precinct's public domain.

- Alcohol free zoning to be limited to public domain outside of licenced venues perimeter within Central Precinct.

3.5.8.3   Take Kare program and safe spaces

The Take Kare program deploys trained volunteer 'ambassadors' on Friday and Saturday nights to provide on-the-spot assistance to vulnerable people. Currently these volunteers operate at Town Hall with access to a dedicated safe space to provide vulnerable young people with a place to rest, rehydrate, charge their phones, get first aid, find transport home, or wait for friends and family. Around 12,800 people were supported by the Safe Space and Take Kare program in 2018.

The expansion of the Take Kare program should be considered for areas identified as hotspots for unwanted attention and sexual harassment, especially towards young women, at Central Station (e.g. Eddy Avenue, Henry Deane Plaza, Western Forecourt).

The Central Precinct should have dedicated shelter and safe spaces which are manned by trained staff/volunteers. The safe space should be monitored by Precinct security systems and personnel and located in an easily accessible strategic location within the Precinct. Safe spaces shall consider suggested support provisions contained in this section and be accommodating of diverse vulnerable groups (e.g. through specific LGBTQIA+, disability and gender-sensitivity training of staff).

3.5.8.4   Business crime prevention initiatives

In 2017, the City of Sydney launched an initiative which released podcasts to local business owners and operators, providing education on how to protect themselves and others from crime.

A similar training and awareness initiative implemented for local business owners and operators at the Central Precinct can be expanded to include education on deterring, detecting, and responding to criminal and anti-social behaviour within their business and in the surrounding public environment.

This has the potential to increase the sense of ownership local business staff have for the public domain. With extensive building frontages for Food and Beverage (F&B) and retail businesses proposed throughout Central Precinct, such an initiative can have a positive impact on identifying, reporting and containing the impact of criminal or Anti-Social Behaviour (ASB) incidents.

3.5.8.5   Homeless Strategy

Central Station and surrounding spaces are frequented by rough sleepers and persons experiencing homelessness.

A strategy shall be developed on the Central Precinct approach to its relationship with rough sleepers or persons experiencing homelessness.

The approach shall take into account the NSW Government Protocol for Homeless People in Public Places (Housing NSW, 2013). The protocol predominately emphasises a non-interference approach to government personnel's engagement with homeless persons unless assistance is wanted, or they represent a danger to themselves or other.

As became clear during consultations with advocacy groups for homeless persons, the Central Precinct development itself will not be able to solve the wider problems surrounding rough sleepers despite allocation of a certain portion of residential space to affordable housing. The issue of homelessness requires wider societal and community deliberations which go beyond Central Precinct.

Nonetheless, the strategy should clarify the extent to which persons experiencing homelessness shall be accommodated within the Precinct through social infrastructure and initiatives.

If the Precinct shall be an inclusive environment for all user groups, then homeless persons shall not be 'designed out' (e.g. through hostile architecture).

The Central Precinct homeless strategy shall consider engaging with specialist homeless services (SHS), which consist of non-governmental organisations. Further engagement with relevant stakeholder groups such as Homelessness NSW, Mission Australia, and the Haymarket Foundation is recommended.

Precinct security staff shall conform to the protocol and ensure that appropriate engagement with homeless persons, if required and wanted, is embedded in training and exercising.

Central Precinct shall consider the use of a 'report a rough sleeper' tool to log and identify homeless persons as suggested under the Local Government NSW Submission to the Inquiry to the Protocol for Homeless People in Public Places 2020.

3.5.9   Construction security

All Precinct proponents, contractors and sub-contractors are responsible for contributing to the ongoing security integrity of the Precinct. Given the potentially long duration of the Precinct's construction phase, construction site security is an important component in maintaining the security integrity of the site to protect rail operations and areas of the Precinct's public domain as they become operational. Construction sites will be subject to requirements for security management, procedures, and controls to minimise risks. Detailed requirements will be developed in subsequent design phases.

3.6   Next steps

The safety and security assessment and consultation has demonstrated that current master planning for the renewal of the Central Precinct public domain would have a moderate risk exposure, but the current Central Station environment is not deemed to be sufficiently safe and welcoming. This Safety and Security Strategy ('the Strategy') seeks to describe an effective approach to addressing known and perceived risks through a combination of designed-in measures, operational management and social initiatives.

A safe, active and inclusive redevelopment are cornerstones of the Central Precinct. TfNSW will continue to develop the Master Plan with safety and security woven into the fabric of the proposal. This will include further assessment and the development of requirements and initiatives as part of the Master Plan and subsequent development of sub-precincts and lots. To avoid independent planning, precinct-wide standards, guidelines and plans will be developed to ensure a cohesive and consistent approach is applied over the long-term.

A safe and secure environment is recognised as integral to Central Precinct success and TfNSW will continue active engagement with security stakeholders, key groups and the public throughout the project lifecycle to support this objective.

Developing long-term solutions to safety and security will require extensive ongoing consultation to identify innovative methods to address social challenges and create the safest Central Precinct possible for user groups from all backgrounds, identities and genders.

Relationships established as part of the development of this report shall be expanded on and relevant advice incorporated into safety to security considerations for subsequent Central Precinct design and operational planning. Continuous engagement should be conducted with City of Sydney Council, the Department of Planning and Environment, the Greater Cities Commission, New South Wales Police Force, XYX Labs, as well as members or representatives of vulnerable groups (incl. young women and girls, homeless persons, LGBTQIA+, people with various disabilities, and people from diverse ethnic and cultural backgrounds).

The Security Risk Assessment (SRA) and controls outlined in this report are aimed at the strategic level and will be refined and updated as the design of Central Precinct develops. Detailed risk assessments, security control requirements at the performance level, social initiatives and management plans described in the Strategy shall be completed in subsequent design stages.

Appendix A – Line of sight table

Issues	Aspirations	Solutions
Not following through on public safety initiatives and social CPTED and the emphasis placed on addressing concerns of vulnerable groups expressed in the SSP requirements.	Going beyond traditional CPTED (for the built environment) and security working collaborative with social planners to implement programs and initiatives.	Planning framework for ongoing consultation during design phases to ensure programs and initiatives are considered, relevant services incorporated.
Lack of consistency of security design Central Precinct proponents, and inconsistency between safety and security standards of the Central Precinct public domain, private spaces, transport facilities and external environment.	All proponents implement buy in to a common set of guidelines (and security aesthetic).	Security design guidelines for compliance by all proponents within the Precinct.
The design is not matched by a well-resourced safety and security function in operations phase to be sufficiently proactive.	The Precinct operator places long-term emphasis on safety and security	Early completion of a Central Precinct Security Master Plan to define operational security requirements. Targets for crime reduction and improved perceptions are set.

Appendix B – Evidence of Consultation

Stakeholder	Transport for New South Wales – Security, Crisis and Emergency Management Branch
Title	CPRP SSP Safety & Security – TfNSW Briefing & Discussion
Participants	Simon Carroll (TfNSW), Sean Marasha (TfNSW), Andrew McWhinney (IR), Ben Waldner (IR)
Date / Time	12 January 2022 / 11AM – 12PM
Summary	See **Section 2.1** for detailed summary.

Stakeholder	New South Wales Police Force – Surry Hills Police Area Command
Title	Central Precinct Renewal – Safety and Security Discussion
Participants	Michael Fuller (NSWPF), Andrew McWhinney (IR), Ben Waldner (IR)
Date / Time	12 January 2022 / 1PM – 2PM
Summary	See **Section 2.2** for detailed summary.

Stakeholder	Sydney Trains – protective security section
Title	Central Precinct Renewal – State Significant Precinct
Participants	Mark Edmonds (TfNSW), Ben Waldner (IR)
Date / Time	17 January 2022 / 2PM – 3PM
Summary	See **Section 2.3** for detailed summary.

Stakeholder	City of Sydney Council
Title	Central Precinct Renewal – State Significant Precinct / Safety & Security Strategy
Participants	David Cornett (CoS), Rebecca Martin (CoS), Bec Krieger (TfNSW), Shailee Mendelevich (TfNSW), Andrew McWhinney (IR), Ben Waldner (IR)
Date / Time	1 February 2022 / 2PM – 3PM
Summary	See **Section 2.4** for detailed summary.

Stakeholder	Department of Planning and Environment (NSW)
Title	TfNSW consultation with DPIE on Safety and security, noise and vibration, pollution and Daylight, sky view and solar access at Central Station
Participants	Andrew McWhinney (IR), Ben Waldner (IR), Hugh Thornton (TfNSW), Peter Rand (Arcadis), Tim Carr (Arup), Rebecca Cadorin (Arup), Ben Lawrence (RWDI), Jemma Basso (Architectus), Greg Burgon (Architectus), David Atwood (Ethos Urban) DPE invitees: Elizabeth Bowra, Caroline Butler-Bowdon, Fiona Morrison, Daniel Stace, Drew Pinazza
Date / Time	14 February 2022 / 9.30AM – 11AM
Summary	Please see **Section 2.5** for brief summary.

Stakeholder	Greater Cities Commission (formerly Greater Sydney Commission)
Title	CPRP social issues – Consultation with Greater Sydney Commission
Participants	Andrew McWhinney (IR), Ben Waldner (IR), Hugh Thornton (TfNSW), Santhurie Naidoo (TfNSW), Allison Heller (Ethos Urban), Nicole Vukic (Arcadis), Bailey Byrnes (Arcadis), Chris Bain (Ethos Urban), David Attwood (Ethos Urban) Greater Cities Commission invitees: Julie-Ann Owens
Date / Time	31 January 2022 / 11.30AM – 1PM
Summary	Please see **Section 2.6** for brief description.

Stakeholder	New South Wales Police Force – Public Transport Command and CPTED section
Title	TfNSW Central Precinct – safety and security
Participants	Cath Bradbury (NSWPF), Andrew McWhinney (IR), Ben Waldner (IR), Bec Krieger (TfNSW)
Date / Time	15 February 2022 / 3PM – 3.45PM
Summary	Please see **Section 2.7** for detailed summary.

Stakeholder	Inner Sydney High School
Title	TfNSW Central Precinct Renewal Program – Inner Sydney High School
Participants	Bec Krieger (TfNSW), David Barnard (TfNSW), Ben Waldner (IR), Robyn Matthews (ISHS), Christanthos Kazanis (ISHS)
Date / Time	21 February 2022 / 2PM – 3PM
Summary	Please see **Section 2.8** for detailed summary.

Stakeholder	XYX Labs, Monash University
Title	TfNSW Central Precinct Renewal – XYX Labs
Participants	Andrew McWhinney (IR), Ben Waldner (IR), Bec Krieger (TfNSW), Nicole Kalms (XYX Labs), Gillian Matthewson (XYX Labs)
Date / Time	8 March 2022 / 11AM – 11.45AM
Summary	Please see **Section 2.9** for detailed summary.

Stakeholder	Homelessness NSW, Mission Australia, Haymarket Foundation
Title	TfNSW Precinct Renewal Program
Participants	David Barnard (TfNSW), Bec Krieger (TfNSW), Ben Waldner (IR), Colin Sargent (TfNSW), Tamasin Soehardi (TfNSW), Allison Heller (Ethos Urban), Janene Flick (TfNSW), Digby Hughes (Homelessness NSW), Camilla Williams (Haymarket Foundation), Gabrielle De Knock (Haymarket Foundation), David Attwood (Ethos Urban)
Date / Time	15 March 2022 / 10AM – 11AM
Summary	Please see **Section 2.10** for detailed summary.

Stakeholder	Transport for NSW – Emergency management
Title	Emergency Planning Discussion
Participants	Andrew McWhinney (IR), Ben Waldner (IR), Hugh Thornton (TfNSW), Marnie Edwards (TfNSW), Ester Luk (TfNSW)
Date / Time	15 March 2022 / 1.15PM – 1.45PM
Summary	Please see **Section 2.11** for detailed summary.

Stakeholder	Greater Cities Commission Youth Panel
Title	Central Precinct Safety and Security Consultation – GCC Youth Panel
Participants	Jayden Bregu (GCC), Jack Layard (GCC), Melissa Halloran (GCC), Trish Oakley (TfNSW), David Barnard (TfNSW), Matilda Harry (GCC), Tanya Kulakovska (TfNSW), Claudia Rosario (GCC), Deborah Prospero (GCC), Mariam Akoba (GCC), Muhadissa Haidari (GCC), Ria B. (GCC)
Date / Time	12 April 2022 / 5PM – 6.30PM
Summary	Please see **Section 2.14** for detailed summary.

Stakeholder	Greater Cities Commission – Women's Safety Charter
Title	TfNSW Central Precinct Renewal Program – GCC Women's Safety Charter briefing
Participants	Colin Sargent (TfNSW), Bec Krieger (TfNSW), Ben Waldner (IR), Alison McMorland (Shebah), Catharine Pruscino (UTS), Gail Le Bransky (Disability Council NSW), Shay Riley-Lewis (Planning Institute of Australia, NSW Division), Caroline Cuddihy (Disability Council NSW), Tara Murphy (UNSW), Amanda Rose (Western Sydney Women), Trisha Oakley (TfNSW), Semra Tastan (UNSW), Tamasin Soehardi (TfNSW), Tanya Kulakovska (TfNSW), David Peters (Business Sydney), Melissa Halloran (GCC)
Date / Time	10 May 2022 / 4PM – 5PM
Summary	Please see **Section 2.16** for detailed summary.

Appendix C – Security standards and guidance

The security risk treatment and mitigation measures implemented for Central Precinct should comply with the following standards, guidelines, and handbooks.

Australian and international standards – strategic planning

- ISO 31000:2018: Risk Management – Guidelines
- HB 167 – 2006: Security Risk Management
- ISO 22341:2021: Crime Prevention Through Environmental Design
- HB 327 Communicating and Consulting About Risk
- HB 221:2004 Business Continuity Management
- AS 3745-2010 Planning for Emergencies in Facilities
- AS 5050 Business Continuity – Managing Disruption – Related Risk.

Australian and international standards – security design

- AS 1158 (Series): Lighting for roads and public spaces
- AS 1428: Design for access and mobility
- AS 1725: Chain-link Fabric Security Fences and Gates
- AS 2201: Intruder Alarm Systems (Parts 1 – 4)
- AS 3555.1: Building elements – Testing and rating for intruder resistance
- AS 4145.1: Locksets and Hardware for Doors and Windows - Glossary of terms and rating system
- AS/NZS 4145.2: Locksets and Hardware for Doors and Windows – Mechanical locksets for doors and windows in buildings
- AS 4421: Guards and Patrols
- AS 4607: Personal response systems
- AS 4806: Closed Circuit Television (Parts 1 – 4)
- AS 62676: Video Surveillance Systems for use in Security Applications (set)
- ISO IWA-14 1 & 2: 2013 Vehicle Security Barriers
- BS EN ISO 11064: Ergonomic design of control centres
- BS PAS 68 – Impact test specifications for vehicle security barrier systems
- BS PAS 69 – Guidance for the selection, installation and use of vehicle security barrier systems.

Transport security standards

- TfNSW Standard: Risk Criteria for Use by Organisations Providing Engineering Services (T MU MD 20002 ST)

- TfNSW Guide: Quantified Safety Risk Assessment (T MU MD 20003 GU)

- TfNSW Standard: Surface Transport Fixed Infrastructure Physical Security Standard (T MU SY 20001 ST)

- TfNSW Standard: Public Transport Closed Circuit Television (CCTV) Functional Requirements (T MU SY 10001 ST).

Australian government guidance

- Australia's Strategy for Protecting Crowded Places from Terrorism (ANZCTC, 2017)

- ANZCTC Active Armed Offender Guidelines for Crowded Places, 2017

- ANZCTC Chemical Weapon Guidelines for Crowded Places, 2017

- ANZCTC Hostile Vehicle Guidelines for Crowded Places: A Guide for Owners, Operators and Designers, 2017

- ANZCTC Improvised Explosive Device (IED) Guidelines for Crowded Places, 2017

- Australian Government Protective Security Policy Framework

- National Guidelines for the Protection of Critical Infrastructure from Terrorism (ANZCTC, 2015)

- Safe Places Vehicle Management Guidelines (NSW Police, 2012)

- Protective Security - Security Managers Guides (various issued by ASIO Outreach Unit)

- NSW Government Policy Statement and Guidelines for the Establishment and Implementation of Closed-Circuit Television (CCTV) in Public Spaces

- A National Approach to Closed Circuit Television: National Code of Practice for CCTV Systems for Mass Passenger Transport for Counter-Terrorism March 2012

- Better Placed – An integrated design policy for the built environment of New South Wales (2017) (NSW Government Architect)

- Greener Places Design Guide (2020) (NSW Government Architect)

- Practitioner's Guide to Movement and Place – Implementing Movement and Place in NSW (2020) (NSW Government Architect)

- Connecting with Country – A draft framework for understanding the value of Aboriginal knowledge in the design and planning of places (2020). (NSW Government Architect)

- City of Perth (2019) Creating Safer Spaces: Design Guidelines to Reduce Crime and Anti-Social Behaviour.

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Other guidelines and reports

- Centre for the Protection of National Infrastructure (CPNI) Blast Effects on Buildings (2nd edition) - Chapter 11: Vehicle-Borne Threats and the Principles of Hostile Vehicle Mitigation, 2009

- CPNI Integrated Security: A Public Realm Design Guide for Hostile Vehicle Mitigation, 2014

- Centre for the Protection of National Infrastructure – Blast Effects on buildings (2nd edition) - Chapter 11: Vehicle-borne threats and the principles of hostile vehicle mitigation, 2009

- Council of Australian Governments (COAG) Report – Australia's Counter-Terrorism Strategy: Strengthening Our Resilience, 2015

- Critical Infrastructure Resilience Strategy: Plan, Australian Government, 2015

- FEMA-426 Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings, 2011

- National Code of Practice for Chemicals of Security Concern, Attorney General's Department, 2016

- Protecting Crowded Places: Design and Technical Issues, Home Office, CPNI, and National Counter Terrorism Security Office (NaCTSO), January 2012

- US Army FM 3-19.30 Physical Security, 2001

- US Department of Homeland Security Risk-Based Performance Standards Guideline: Chemical Facility Anti-Terrorism Standards, May 2009

- National Code of Practice for Chemicals of Security Concern, Attorney General's Department, 2016

- National Surface Transport Security Strategy, Transport and Infrastructure Senior Official's Committee, September 2013.

Project-specific reports

- TfNSW - Central Precinct Strategic Framework (2020)

- Central Precinct Draft SSP DRP8 Presentation Masterplan - Oct 2021

- TfNSW / Arcadis – CPRP: Security Precinct Strategy Report 20 September 2020 (CPRP025-ADAP-CEN-SC-RPT-000001)

- Ethos Urban – CPRP: Draft Social Infrastructure and Sustainability Study V3 31 May 2021 (218953)

- PLAN International / Monash University – Free to Be: Sydney Report 2018

- Committee for Sydney – Safety After Dark: Creating a City for Women Living and Working in Sydney March 2019

- Housing NSW – Protocol for Homeless People in Public Places: Guidelines for Implementation May 2013

- Local Government NSW – Inquiry into the Protocol for Homeless People in Public Places February 2020

- TfNSW – Exploring the Design of Interchanges with Homelessness in Mind 26 June 2018 (AP 18-04)

- Intelligent Transport – Transport for London launches campaign to tackle sexual harassment 27 Oct 2021

- University of Technology – Designing out Crime Initiative

- She's a Crowd – Online Mapping Tool

- Arup – Making Sydney Safer for Women and Girls

- Monash University – Lighting Cities: Creating Safer Spaces for Women and Girls

- UN Women – Safe Public Transit for Women and Girls

- City of Vienna – Manual for Gender Mainstreaming in Urban Planning and Urban Development.

Appendix D – CPTED design assessment

D.1 Public streets and lanes

The Central Precinct will be interspersed by major north-south and west-east axes and smaller lanes and connectors. Public streets and lanes include the Central Avenue, north-south Laneway, Eastern Colonnade, Devonshire Link, and west-east connectors.

The streets and lanes are envisioned to be multi-use spaces featuring pedestrian paths, outdoor dining, dwelling/sitting options, landscaping, and access sites to buildings and public transport.

Figure D1: Sectional drawing of Central Avenue (l), north-south laneway (m), and eastern colonnade (r) (Source: Central Precinct Masterplan, DRP 8)
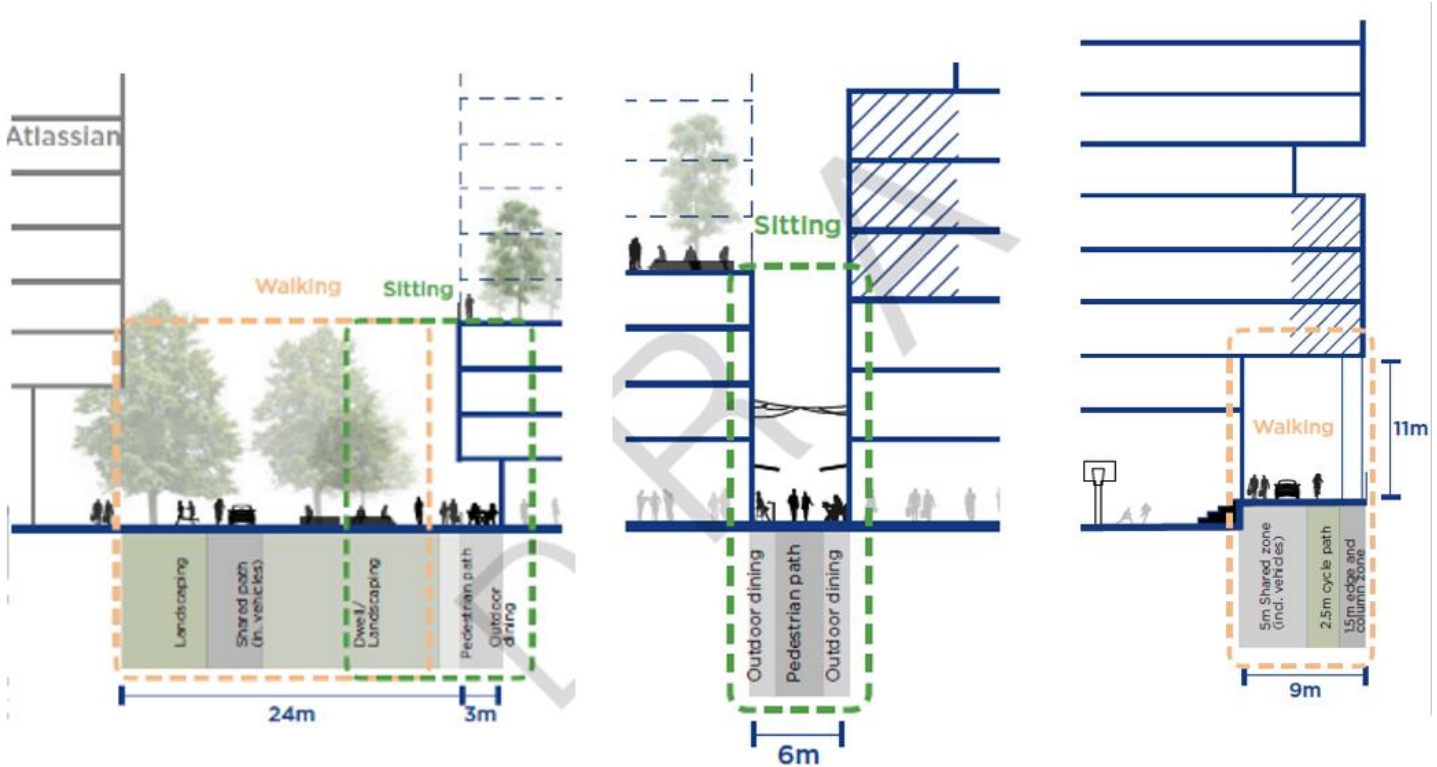
Current design of paths in the public domain supports the prevention of crime and increases perceptions of safety through the following aspects:

- The straightforward organisation of the Central Precinct route network assists users with the logical planning of trips and feelings of safety by understanding where they are located at all times

- The long, straight design of streets and lanes, with an absence of barriers, allows for far-reaching visibility and satisfies natural surveillance requirements along paths. A street block length of maximum 150 metres was flagged by the City of Vienna's gender mainstreaming manual as reducing route predictability and allowing for evasion options. All streets and lanes according to current planning facilitate this principle

- Central Avenue and Devonshire Link, which will form the main north-south and west-east axes of the Precinct, are sufficiently wide to allow for multiple paths to be chosen. This assists vulnerable persons with avoiding paths or desire lanes perceived as unsafe and provides evasion options

- Access to and egress from pathways is possible via multiple connectors to adjacent avenues, lanes and plazas. Dead ends are avoided, and all streets and lanes integrate seamlessly. This reduces the potential for entrapment in unsafe situations and allows for fast egress from the pedestrian path

- Landscaping along pathways provide shelter opportunities and minimise a sense of a sterile environment. Consideration has been given to pruning trees and low plantings sufficiently to maintain natural lines of sight at ground level and from within buildings to the outdoor public domain

- Along narrower lanes, including the north-south laneway, Eastern Colonnade and west-east connectors, landscaping is kept to a minimum to avoid creating cluttered spaces with low-visibility and potential hiding spots

- Activation along narrower lanes is encouraged by providing secondary access points to commercial and residential buildings

- Seating and dwelling options along major precinct axes provide vulnerable groups with opportunities to rest and claim ownership of segments of the public domain. This is especially important for persons with mobility issues and persons who feel less confident in the public environment

- Transparent and active ground-level frontages which increase pedestrian usage, foster a sense of territorial ownership, and allow for universal natural surveillance of the abutting pathways and plazas

- Initial sky-view analysis has been conducted to assess the amount of sunlight reaching the ground-level. Adequate levels of natural illumination, especially along the major north-south and west-east axes, minimise concealed spaces during the day

- In addition to providing shelter opportunities from inclement weather, building overhangs at the Central Avenue and Eastern Colonnade can be perceived as more protected, increasing perceived levels of safety for some users. However, a sense of enclosure and seclusion should be avoided, which is achieved through open sidings to the public domain and permeable building walls

- Running centrally through the OSD, public streets and lanes lead to a limited amount of Precinct entry/egress points. This assist Precinct security with natural access control and limits the options for criminals to evade detection and interception

- Placement of the Devonshire Link above ground eliminates many issues associated with the current Devonshire tunnel. The tunnel has repeatedly been flagged by vulnerable people as being one of the locations perceived as most unsafe at Central Station currently. The proposed Over-Station Development (OSD) wide path will remove feelings of entrapment and isolation. Additionally, the proposed active ground-level frontage, seating options and landscaping helps feelings of safety compared to the sterile, anti-social environment of the tunnel

Figure D2: Illustrations of Central Avenue (l) and Eastern Colonnade (r) (Source: Central Precinct Masterplan, DRP 8)

As the design of the Central Precinct progresses, further considerations at a more detailed level are required for:

- The provision of signage along public routes for wayfinding. These should be clearly visible and legible, and placed in strategic locations throughout the Precinct. Adequate signage will minimise perceptions of being lost and, as a result, feeling unsafe in unknown spaces

- The Goods Line is proposed to run along the western side of the OSD, accessible to the south and will be underground for most of the route. Adequate target hardening measures (e.g. CCTV, lighting and video analytics) must be considered to ensure risks are detected, deterred and responded to adequately in the confined space

- Maintenance and cleaning measures of the public domain support a public domain that is attractive to users and assists with detecting and deterring vandalism and graffiti.

D.2 Plazas, parks, and open public spaces

Figure D3: Illustrations of Central Green Canopy & Green Cover (Source: Central Precinct Masterplan, DRP 8)

Open public spaces, including plazas, squares and parks are located in several key locations of the planned Central Precinct. They include the Central Green, located south of the station building, the Central Square at the Western Forecourt, the southern public domain, and the plaza at the intersection of Central Avenue and the Devonshire Link.

Aspects of the public plazas and parks which adhere to and positively implement CPTED principles include the following:

- Plazas are interspersed throughout the public domain, inviting users to gather and feel responsible for the use and condition of the public space

- Their location as extensions of multiple public avenues and lanes elicits high levels of usage and options to avoid entrapment and egress from the open space swiftly. This further allows for natural observation of public plazas from connecting avenues and lanes

- Open spaces of public domain allow for uninterrupted sightlines at ground-level, increasing spatial awareness and perceptions of safety by being able to observe the surrounding environment

- Terraces and balconies located along the perimeter of open public spaces form elevated vantage points from which natural surveillance of large parts of open public spaces is available. This further increases the risk of detection for criminals and persons engaging in anti-social behaviour

- Paths within plazas and parks (e.g. Central Square and Central Green) allow for movement straight across open space or for alternative routes along the perimeter. Single route options across exposed open space may increase perceptions of feeling unsafe in public. The proposed route layout provides multiple options

- As with public pathways, landscaping in the plazas has been designed with considerations for lines of sight along the ground-level, this is reflected in the planting options for these spaces (i.e. usage of high-rise palms at southern public domain)

- Street furniture will be placed within Precinct plazas and parks. These consist of a combination of movable objects at active ground-level frontages (e.g. café tables and seats) and immovable objects such as park perimeter seating options and round seating. Concerns surrounding the illegitimate use of street furniture for malicious acts during unsupervised hours should be considered.

- Buildings places along plazas will have a combination of active and mixed-use frontages which foster activation and a sense of ownership over the open public domain by owners/operators and persons using ground-level amenities. Amenities further encourage plazas to be used as recreational zones in their own right as opposed to mere movement zones

- Covered walkways at the heritage zone ground-level along the perimeter of the Central Square have been widened to provide space for food and beverage amenities. This increases natural surveillance and a sense of ownership of these spaces, eliminating some issues identified with similar structures (i.e. covered walkways at current Central Station along Eddy Avenue and Pitt Street).

Figure D4: Illustrations of Central Square (l) and the southern public domain (r) (Source: Central Precinct Masterplan, DRP 8)

As the design of the Central Precinct progresses, further considerations at a more detailed level are required for:

- Natural surveillance of the Central Avenue from the upper and ground-levels of the surrounding structures should also not be impeded on by the excessively dense tree canopies

- Central Square's open northern and western perimeter make natural access control difficult. Additional target hardening measures, including hostile vehicle mitigation measures along the interface to Pitt Street and Regent Street, shall be considered to adequately address risks.

D.3 Bridges

Bridges form an essential part of the Central Precinct in connecting and opening up Central Station and the OSD to surrounding suburbs such as Surry Hills and Redfern. Three bridges are currently planned under the Central Precinct, including Devonshire Bridge, Middle Bridge and George St Bridge.

Figure D5: Illustrations of Devonshire Bridge and Southern George St Bridge (Source: Central Precinct Masterplan, DRP 8)

Initial design assessment of the Precinct bridges from a CPTED perspective indicates the following:

- All three are planned as open design bridges, allowing for natural surveillance along the overpass and from the surrounding environment (i.e. buildings and rail corridor). This increases perceived levels of safety as well as the chance of detecting criminal or anti-social activities

- The bridges act as elements of territorial enforcement for the wider Central Precinct. Residents, workers, staff, and other Precinct users can clearly distinguish between internal and external zones of the site, which encourages a sense of ownership. This contributes to increased levels of reporting and actions against anti-social behaviour or criminal activities by the public

- The limited options of egress from the Central Precinct to the east assist security personnel with natural access control of the Precinct. This makes it easier to identify and respond to offenders.

Consultation with Sydney Trains raised the requirement to instal anti-climb measures at the bridges traversing the rail corridor to mitigate the risk posed by suicides or suicide attempts. As informed by data provided by Sydney Trains and analysed in the *Summary Security Risk Assessment*, suicides from elevated positions onto the electrified tracks has severe consequences for, not only the victim, but also rail service delivery.

Meetings with the Central Precinct design team, including Tyrrell Studio and Architectus confirmed that consideration has been given to the installation of anti-climb measures along the vulnerable interfaces between Precinct and the rail corridor, including the three bridges, Eastern Colonnade, and the southern public domain.

D.4 Central Station

The design of the new Central Station building is still in progress, although large parts will be maintained for heritage reasons. Qualitative data derived from the personal experiences of vulnerable people has indicated that the northern main frontage of the current Central Station at Eddy Avenue, and the western frontage along Pitt Street, are perceived as unsafe places due to dimly lit station sidewalks, and the presence of persons associated with anti-social behaviour.

Current planning to increase perceptions of safety at the Central Station building along Eddy Avenue and Pitt Street includes the activation of ground-level sidewalks through cafes, retail, and restaurants. Additional activation could potentially be achieved through a wide entrance to the station concourse from the abutting streets.

From a CPTED perspective, the activation of ground-level sidewalks will assist with changing the current perceptions and groups.

However, this activation must be supported by adequate target hardening and space management measures to alleviate concerns (perceived or real) around unsafe station segments which cannot be significantly re-designed due to heritage reasons.

D.5 Carpark design and vehicle access

Current planning for vehicle access at Central Precinct is still in progress. Consultation with Tyrrell Studio and Architectus indicated the OSD will be inaccessible to private vehicles. Only emergency, delivery, waste management, maintenance and other essential service vehicles will be allowed access to the OSD. This may serve to reduce hostile vehicle mitigation requirements on the deck itself but place particular importance on controlling vehicle access to the deck. This supports CPTED principles by creating increased and safer activation along OSD routes and plazas.

Due to the planned restrictions, vehicle access control measures must be considered at key vehicle entry and exit points at the Central Precinct to prevent unauthorised or malicious vehicle access to protected spaces. Several areas have been identified as requiring vehicle access control at the early design stage and shall be reviewed and updated in subsequent design phases. These include access to:

- The southern bridge from Cleveland Street

- Middle Bridge through Prince Alfred Park from Chalmers Street

- Eddy Avenue from Elizabeth Street or Pitt Street

- Any areas of the public domain interfacing with abutting streets (e.g. Central Square)

- Carparks and any other locations which provide ramps to the deck

At this stage, carparks are planned to be located on the western and northern sides of the Precinct, and potentially in the basement beneath the Prince Alfred Sidings development. However, these are not accessible to the public, rather being limited to residents, workers, staff and other authorised vehicles. The accessibility of the carparks has implications on the hostile vehicle measures, access control systems, and blast management assessments which are necessary to be conducted as the Central Precinct design progresses.

The inaccessibility of the Central Precinct carparks assists in the prevention of crime and anti-social behaviour due to making it easier to identify perpetrators and controlling access to unauthorised users. Requiring authorisation to use the carpark zones further enforces territoriality, creating a sense of ownership over the space and encourages members of the public to assist in detecting and responding to criminal or anti-social incidents.
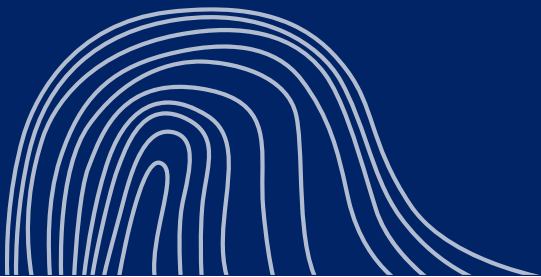
Additional target hardening measures aligned with best practice for carpark spaces shall be considered in subsequent design stages of the Central Precinct.

Appendix E – TfNSW risk matrix

The following table shows the risk matrix used in the summary SRA underpinning this Central Precinct Safety and Security Strategy, and is the standard used to determine risks outlined in section 3.2.2. The risk matrix is defined under the TfNSW standard: Risk Criteria for use by Organisations Providing Engineering Services V2.0 16 Dec 2022 (T MU MD 20002 ST).

Figure E1: TfNSW risk matrix (Source: T MU MD 20002 ST)

| | Description | | Consequence | | | | | |
			Insignificant C6	Minor C5	Moderate C4	Major C3	Severe C2	Catastrophic C1
Likelihood	Almost certain	L1	D	C	B	A	A	A
	Very likely	L2	D	C	B	B	A	A
	Likely	L3	D	C	C	B	B	A
	Unlikely	L4	D	D	C	C	B	B
	Very unlikely	L5	D	D	D	C	C	B
	Almost unprecedented	L6	D	D	D	D	C	C

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