



CPTED REPORT



Infrastructure NSW

HICKSON ROAD: UPGRADE – STAGE 3 & 4

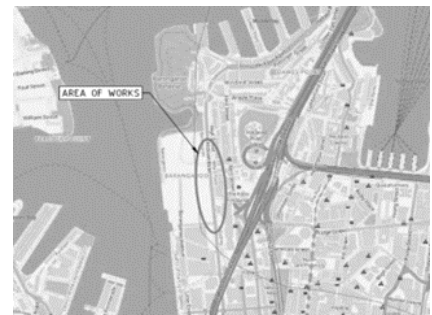
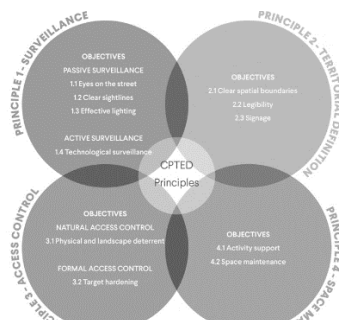


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1. Introduction

1.1 Background

This Crime Prevention Through Environmental Design (CPTED) Report has been prepared by ACAD Services on behalf of Lendlease and Infrastructure NSW (INSW) to assess the potential environmental impacts that could arise from the Hickson Road upgrade and refurbishment works (the **activity**) along the eastern edge of Barangaroo South and Central Barangaroo (the **site**).

This report has been prepared to provide Crime Prevention Through Environmental Design (CPTED) consultancy services for the Hickson Road upgrade – Stages 3 and 4. The key focus of these services is to provide practical advice to the design and construction teams that will enhance the safety and security for regular users of the space whilst deterring criminal and anti-social behaviours.

The approach utilised in formulating this report and its opinions are sound and in step with contemporary security principles. This CPTED report assesses the designs in terms of key principals of CPTED and provides recommendations that can be implemented as part of the ongoing development of the site.

This report accompanies a Review of Environmental Factors that seeks approval for the Hickson Road upgrade and refurbishment, which involves the following works:

- Adjustment to horizontal geometry of the existing Hickson Road, enabling the provision of:
 - Additional short term parking bays along the western side of the roadway;
 - A new two-way separated cycleway along the eastern edge of the roadway;
- Provision of two (2) un-signalised pedestrian crossings along Hickson Road, creating a pedestrian connection to Hickson Park and Central Barangaroo;
- Adjustments to two (2) existing un-signalised pedestrian crossing intersections along Waterman's Quay and Barton Street respectively;
- Installing of a formal left turn slip lane into Waterman's Quay from the north-bound approach on Hickson Road ;

- Constructing new footpaths on the western and eastern sides of Hickson Road to match the already completed footpath works to the north and south of the existing extent of proposed works;
- Provision of permeable paving to accommodate existing trees;
- Landscaping works including the establishment of low-median planting between the eastern edge of the road carriageway and eastern footpath and installation of additional medium sized trees along both the eastern and western footpaths and within the landscape medians;
- Relocation and augmentation of utilities where necessary, including electrical, gas, water and telecommunications;
- Final roadworks, including kerb and gutters, road and footpath pavements, signage, lighting and line marking;
- Installation of new stormwater drainage pit and pipe infrastructure, including a trunk drainage line running adjacent Barton Street to an existing outlet to Sydney Harbour;
- Ancillary works for the project including, but not limited to, road furniture, tie-in works, earthworks, adjustments to existing stormwater drainage infrastructure and flood mitigation works

The Review of Environmental Factors prepared by Ethos Urban provides a full description of the proposed works.

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low, and will not have significant adverse effects on the locality, community and the environment;
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community.

1.2 Context and Scope

The Hickson Road Upgrade presents a unique opportunity to not only enhance its physical infrastructure but also to address safety and security concerns through Crime Prevention Through Environmental Design (CPTED) principles. As a vital urban corridor undergoing revitalisation, Hickson Road requires a holistic approach

that integrates new landscaping and upgraded pedestrian and traffic flows to create an environment that is not only aesthetically pleasing but also inherently safe and conducive to community well-being. By considering the intersection of design and security, the aim is to cultivate a vibrant, inviting, and secure public space for those utilising the site.

1.2.1 CPTED Scope:

1. Landscaping and Natural Surveillance:

- Integrate green spaces and landscaping strategically to maximize visibility and natural surveillance.
- Select vegetation that enhances the aesthetics of the area while minimizing potential hiding spots for illicit activities.

2. Pedestrian Flow and Safety:

- Designed shared pedestrian pathways to optimize traffic flow, reduce congestion, and enhance safety.
- Incorporate well-defined crosswalks, pedestrian islands, and lighting to ensure safe and efficient movement for pedestrians.

3. Traffic Flow and Calming:

- Enhance traffic management through upgraded intersections, signage, and road design to improve safety for both pedestrians and drivers.
- Consider traffic-calming measures such as speed bumps or roundabouts to discourage reckless driving and enhance overall traffic safety.

4. Public Lighting and Visibility:

- Implement well-designed lighting solutions to illuminate pedestrian areas, crosswalks, and public spaces, contributing to increased visibility and a heightened sense of security.
- Ensure lighting is strategically placed to eliminate dark corners and create a well-lit environment.

5. Community Engagement:

- Engage the local community and INSW in the design process to gather insights on safety concerns and preferences.
- Develop a strategy to activate public spaces, fostering a sense of ownership and community connection.

6. Wayfinding and Signage:

- Improve wayfinding signage to guide pedestrians and drivers efficiently, reducing confusion and enhancing safety.
- Implement clear signage for public facilities, emergency services, and points of interest to create a user-friendly environment.

7. Inclusive Design:

- Ensure that the redevelopment is inclusive and accessible to individuals of all abilities.
- Incorporate ramps, tactile paving, and other design elements that prioritise accessibility and accommodate diverse community needs.

8. Technology Integration for Security:

- In conjunction with community stakeholders and INSW explore the integration of smart city technologies, such as surveillance cameras and sensors, to enhance security and provide real-time monitoring.
- Emphasise responsible data management practices and prioritise the privacy of individuals within the community.

1.3 Disclaimer

The implementation of Crime Prevention Through Environmental Design (CPTED) strategies should be integrated with other crime prevention methods and police operations. By adhering to the suggestions outlined in this document, individuals must recognise the following:

- Safety is not an absolute metric; thus, this assessment cannot serve as conclusive proof of safety.
- This assessment does not guarantee absolute safety for the community or public and private properties.
- The assessment and recommendations are based on the provided information and observations made at the time of document preparation.
- This document does not assure the identification of all risks or the absence of criminal activities in the assessed area if recommendations are followed.
- The assessment is conducted on behalf of the applicant and does not necessarily reflect the opinions and expertise of the NSW Police Force.

While CPTED principles aim to reduce crime opportunities, it's acknowledged that environmental design alone cannot entirely eradicate crime opportunities or deter determined offenders from committing crimes.

2. The Site

2.1 Location and in scope zones

Hickson Road Upgrade located north of Napoleon Street Quay and the High Street Steps is scheduled to undergo a refurbishment to include a new layout with drop-off zones, cycling pathways, lighting, trees, and planting.



Figure 1: Hickson Road Development Location.

The following depicts the in-scope zones (in aqua and Green) as shown in figure 2.

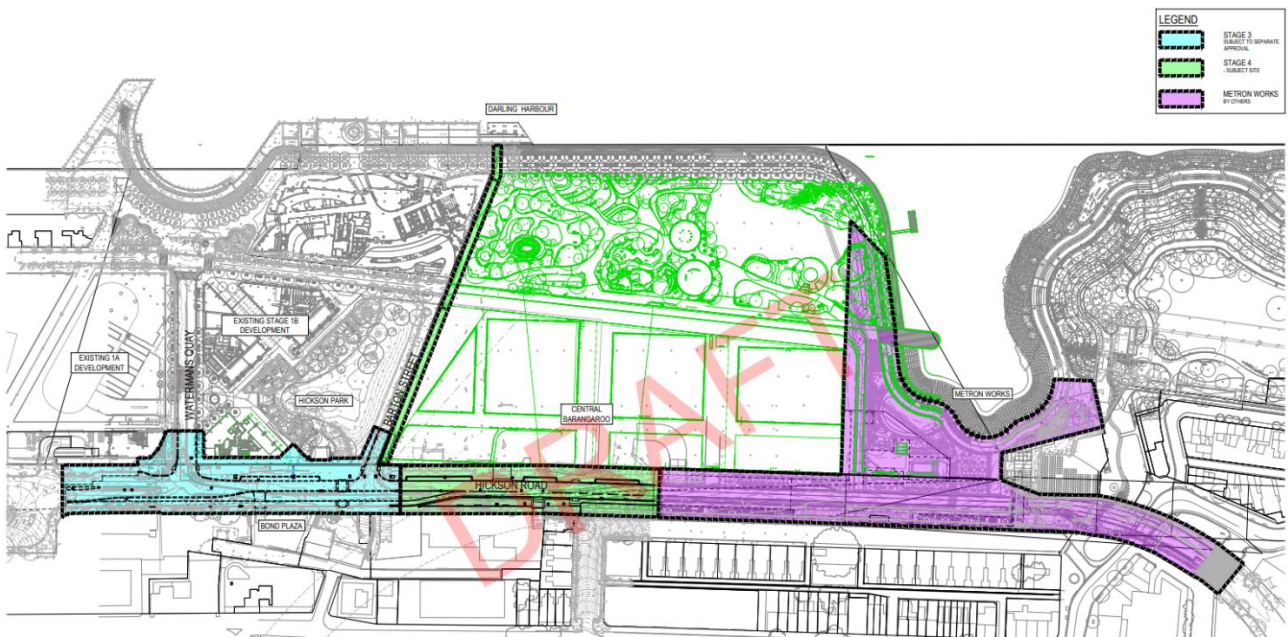


Figure 2: Hickson Road in-scope zones.

Example of elevations depicting the proposed street scapes including, ample pedestrian provisioning, cycleways public amenity and landscaping.

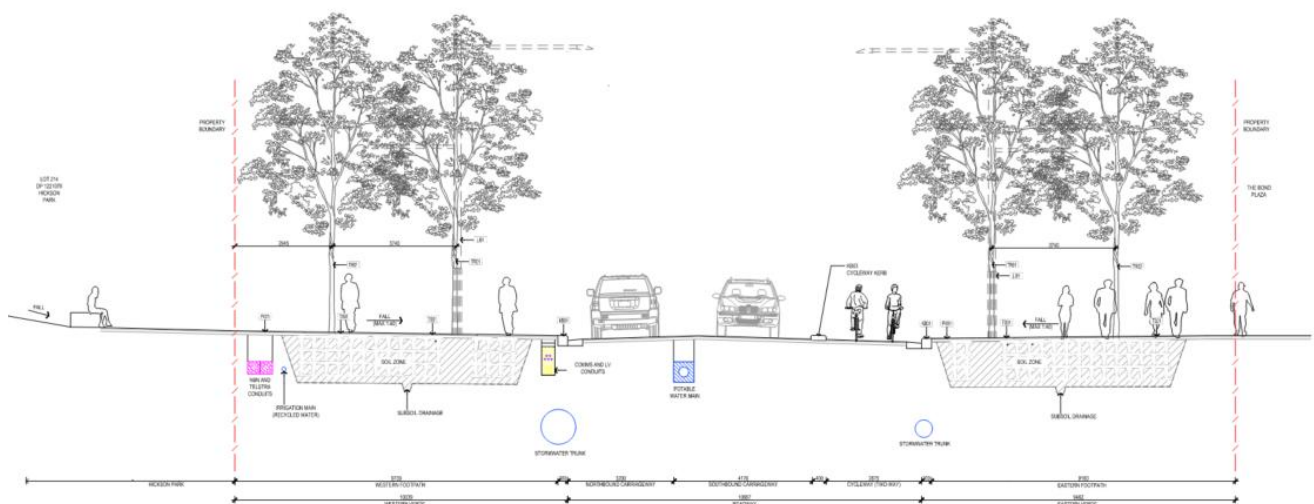


Figure 3: Hickson Road Elevation Example.

2.2 Access

Pedestrian access to the development will be available from both the northern and southern ends of Hickson Road, including direct connection to the new Metro Station. Additional entry points will be provided from the west via Watermans Quay and Barton Street, as well as from the east-west pedestrian walkways linking into Hickson Road. Vehicular access will be facilitated through the designated road network.

2.3 Landscaping

The plan is to establish a cohesive landscaping scheme throughout the site to maintain alignment with the existing landscaping of the Barangaroo precinct to the west and north. This will entail utilising tree species with tall canopies and strategically placed feature trees at pivotal points along the street scape.

The proposed tree planting palette has been carefully chosen to incorporate a variety of heights, promoting natural surveillance. Additionally, the shrub planting plan will encompass a blend of low ground cover and medium-sized shrubs to define territories and control access effectively.

The selected vegetation species typically lack a mid-storey, either growing close to the ground or boasting tall canopies exceeding head height.

3. CPTED Report

3.1 Principles

Crime Prevention Through Environmental Design (CPTED) is a strategy for reducing the probability of the key elements of a crime occurring at a given place and time. Predatory offenders generally make a cost-benefit decision of target, location, and the reward prior to committing the act and in most cases do not want to be identified.

To counter this, CPTED aims to moderate behaviour using strategies to influence decisions that precede crime. The design phase of any new environment or building should therefore maximise the risk to offenders, maximise the effort to commit a crime, minimise the perceived benefits and minimise the opportunity to commit the crime. In practical terms, the design phase should follow the security principles of Deter, Detect, Delay and Respond with various design components adding to this approach.

There are four key CPTED principals laid out in the CPTED guidelines:

1. **Surveillance:** The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical – significant deterrence.
2. **Territorial Definition:** Community ownership of public space sends positive signals. People often feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals.
3. **Access control:** Physical and symbolic barriers can be used to attract, channel, or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime.
4. **Space management:** Popular public space is often attractive, well maintained and well used. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for.

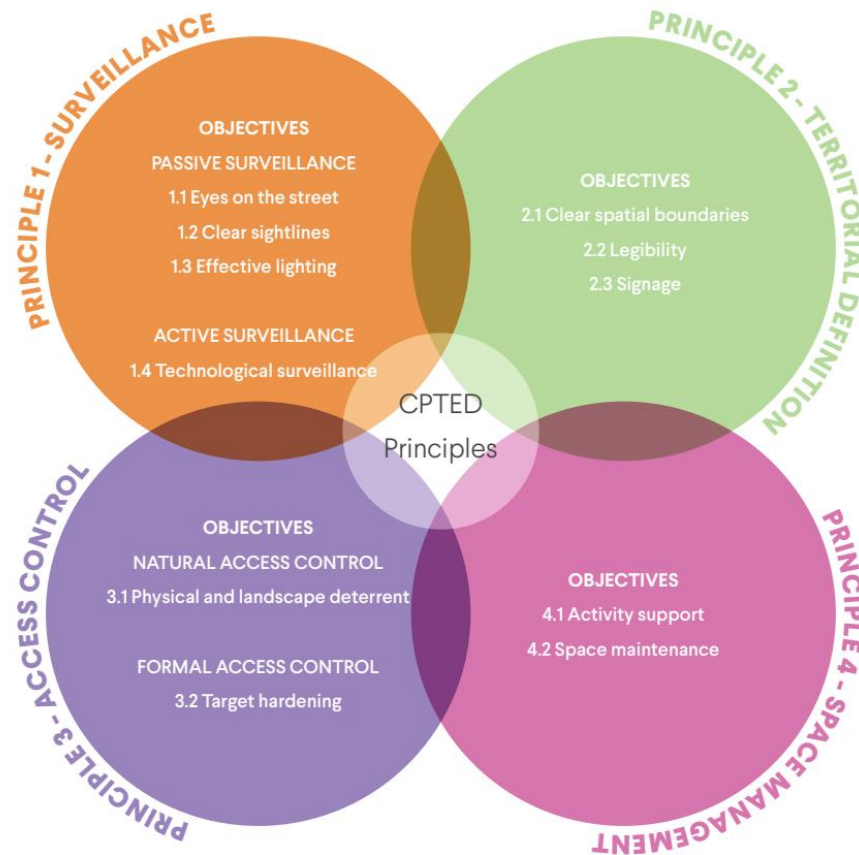


Figure 4: CPTED Principles, Extract from Safer Places by Design Guidelines.

3.2 Processes

3.2.1 Introduction

A design review has been undertaken for the CPTED assessment of the proposed Hickson Road Upgrade – Stage 3 & 4. This review has been used to evaluate the development and determine whether it will avoid generating new safety and criminal concerns within the in-scope zones.

Within this design, (CPTED) principles, should influence the design of the development by:

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

- Increase the effort required to commit crime by increasing the time, energy and or resources which need to be expended.
- Reducing the potential rewards of crime by minimising, removing or concealing “crime benefits”.
- Removing conditions that create confusion about required norms of behaviour.

3.2.2 CPTED Key Steps

Integrating (CPTED) into a project design involves a systematic process to ensure that the built environment is optimised for safety and security.

Threat Identification:

Involves identifying potential crime issues or concerns within the project area. This assessment includes an analysis of crime data, a review of the physical environment, and consultations with relevant stakeholders.

Design Team:

The includes architects, civil engineers, landscape architects, and other relevant experts. The team collaborates to develop design strategies that align with CPTED principles.

Site Assessment:

Detailed site analysis for identifying vulnerabilities and potential areas of concern. This step involves examining the site's layout, existing infrastructure, lighting, landscaping, and access points.

Design Recommendations:

Based on the site analysis and threat assessment, the CPTED team generates design recommendations aimed at mitigating security risks. These recommendations often focus on enhancing natural surveillance (increased visibility), improving territoriality (clearly defined public and private spaces), and optimising access control.

Implementation:

With design recommendations in hand, the project moves into the implementation phase. This involves working closely with architects, builders, and other construction professionals to ensure that the CPTED design principles are integrated into the project's plans.

Monitoring and Evaluation:

Once the project is completed and operational, ongoing monitoring and evaluation is recommended. The CPTED team should assess whether the implemented design features have had the desired impact on safety and security.

3.3 Crime Generators, Crime Attractors and Activity Generators

3.3.1 Crime Generators

Crime generators are locations that, by their very nature, attract large numbers of people for legitimate purposes, inadvertently increasing the potential for criminal opportunities. These areas typically include shopping precincts, transport hubs, and entertainment districts where high pedestrian activity can lead to elevated levels of both opportunistic and petty crime.

The Hickson Road Upgrade is situated within Sydney's Central Business District (CBD), adjoining the Barangaroo Central precincts. This location is characterised by significant pedestrian and vehicular movement associated with nearby commercial, retail and entertainment destinations. As such, the surrounding area functions as a major crime generator due to the volume and diversity of daily activities.

3.3.2 Crime Attractors

Crime attractors are locations that actively draw offenders due to the known or perceived availability of vulnerable targets or limited guardianship. These may

include secluded laneways, poorly lit areas, or places with limited natural surveillance and minimal territorial reinforcement.

In the context of the Hickson Road Upgrade, potential attractor elements include spaces that may offer concealment or low visibility such as underpasses, recessed building entries, and transitional areas between major pedestrian routes. The application of CPTED principles in the design phase, such as improving natural surveillance, enhancing lighting, and clearly defining public and private zones aims to mitigate these risks and discourage criminal or antisocial behaviour.

3.3.3 Activity Generators

Activity generators are features that create local activity and social engagement, including outdoor cafés, restaurants, shops, and public transport facilities. While these areas can experience higher levels of crime due to increased human activity, the appropriate application of CPTED measures can significantly reduce opportunities for offending.

The Barangaroo Central precinct is a major activity generator, supported by a mix of retail malls, bars, clubs, cafés, restaurants, and public transport infrastructure such as train and bus stations. The Hickson Road Upgrade's proximity to these facilities means that the development will both benefit from and contribute to the vibrancy and active use of the surrounding area.

3.3.4 Edge Effects

Edge effects are created around actual or perceived physical borders between land uses. This can include the edge between a public open space and commercial areas, or between commercial and residential uses. With this development, the impact is focussed on the roadway and surrounding areas and businesses and the increase in both pedestrian and vehicular traffic.

As the development is located within the Barangaroo and Sydney CBD area, there will be a large amount of pedestrian and vehicular traffic, therefore natural surveillance in and around this development will be required.

3.3.5 Hotspots

Hotspots refer to areas with a history of elevated criminal activity. When planning designs for these potential hotspots, it's essential to prioritise public safety, encompassing not only the immediate surroundings but also nearby structures like adjacent buildings and facilities, the bus stops, and the train station.

3.4 Threat Identification

3.4.1 General

According to Red Suburbs the area that includes the Hickson Road redevelopment is rated as a relatively unsafe area with typical crimes being Transport regulation offences, Theft, Assault and related offences.

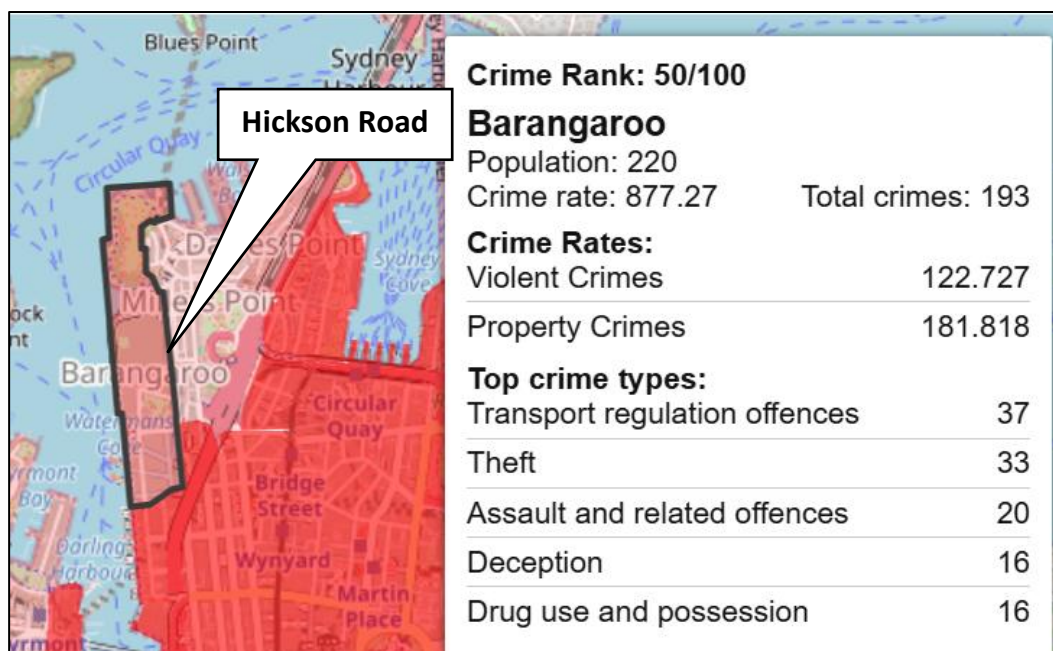


Figure 5: Extract from Red Suburbs showing area in Sydney relating to Barangaroo.

The following statistics for crime rates within the Barangaroo area are measured over 5-year period.

Although there is and overall decrease in total crimes for the area since 2022, the trend for violent and property crimes is increasing.

5 year Barangaroo crime trends

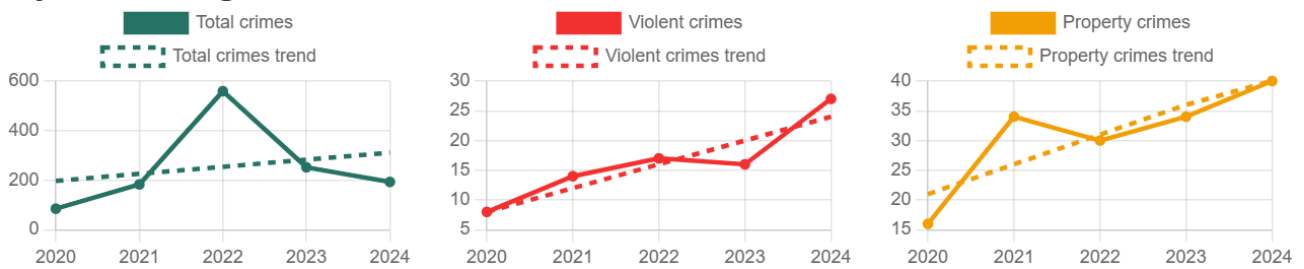


Figure 6: Barangaroo crime trends.

Note: The crime rates for the Sydney Local Government Area are generally much higher than the NSW state-wide averages. This is expected for a CBD where the crime rates are impacted by the commuting population.

Barangaroo crime compared

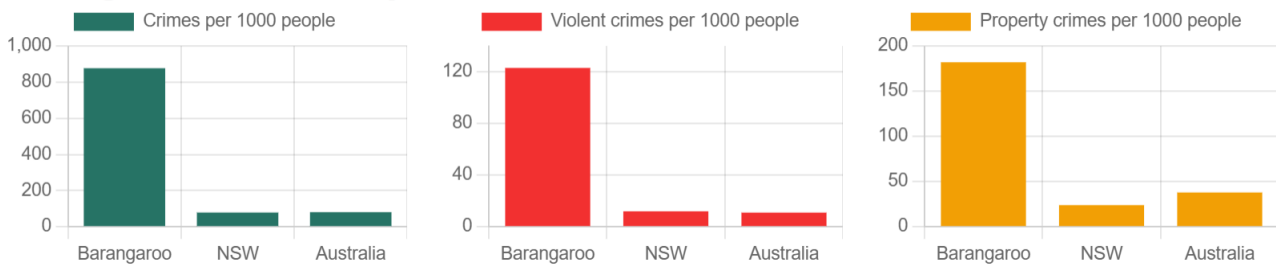


Figure 7: Barangaroo crime rates compared.

The crime profile in Barangaroo suggests that the majority of incidents that were recorded in 2024 are non-violent, with transport regulation offences and theft making up the bulk of reported cases. While violent and high-risk crimes such as assault, stalking, sexual offences, and drug trafficking occur at much lower rates, their presence indicates the need for targeted safety measures.

Top crime types in Barangaroo:

Transport regulation offences	37
Theft	33
Assault and related offences	20
Deception	16
Drug use and possession	16
Other drug offences	15
Miscellaneous offences	11
Stalking, harassment and threatening behaviour	10
Justice procedures offences	9
Sexual offences	7
Property damage	7
Drug dealing and trafficking	6
Weapons and explosives offences	3
Disorderly and offensive conduct	3

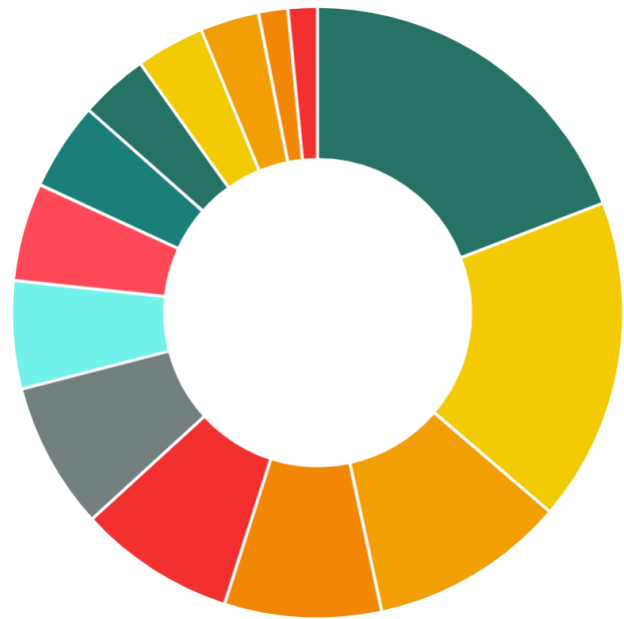


Figure 8: Chart showing Crime Types in Barangaroo in 2024.

3.5 Crime Prevention Strategy

The City of Sydney’s Community Safety Action Plan sets out the City’s contribution to making Sydney a safe and resilient place to live, visit, work and study. The 2019–2023 Action Plan’s crime prevention strategy identifies four priority areas for action. The proposed Hickson Road Upgrade is not considered inconsistent with these objectives, as the works are intended to enhance connectivity, improve pedestrian and vehicular safety, and support the activation of surrounding public spaces consistent with the City’s broader safety and urban design goals.

Action 1 – Safer Streets and Spaces

- Working with partners to increase actual and perceived public safety in Sydney’s streets and spaces as well as management of lighting, CCTV, parks, footpaths, graffiti, and waste management.

Action 2 – Crime Prevention and Response

- Contributing to reducing local crime and supporting initiatives that address domestic and family violence, sexual assault and safeguarding children from abuse.

Action 3 – Ready and Resilient

- Working together to better prepare for and respond to emergencies that may arise and strengthening community resilience.

Action 4 – A Safe Global Destination

- Helping visitors and international students to feel welcome and experience the city safely, and promoting Sydney as a safe place to visit, study and invest.

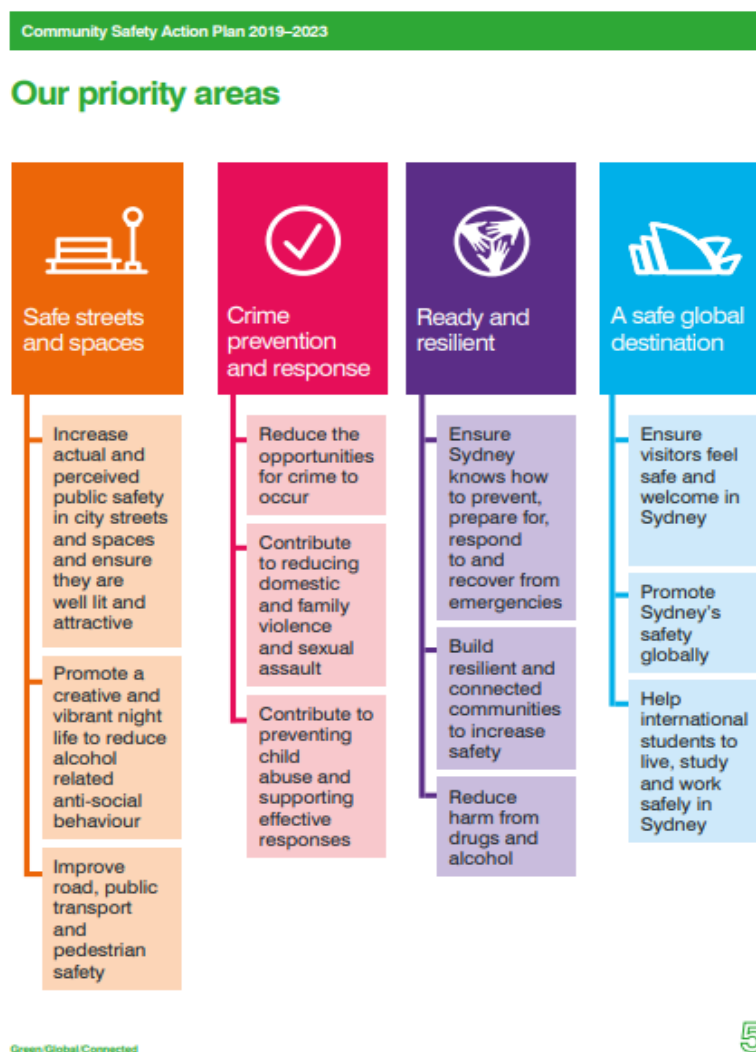


Figure 9: Extract from City of Sydney's Crime Prevention Action Plan.

3.6 Assessment & Recommendation

3.6.1 General

The Hickson Road Upgrade consists of a series of amendments to accommodate a new layout with drop-off zones, cycling facilities, lighting, trees and planting.

To address the requirements, the CPTED assessment focus' on the following scenarios.

- Public Spaces,
- Pedestrian & Cycling Networks,
- Pedestrian Access Ways, and;
- Activity Centres.

3.6.2 Vehicles, Pedestrians & Cycling Networks

CPTED principles, when applied to vehicle, pedestrian, and cycling networks, help create spaces that are not only functional but also promote a sense of security. These principles have been incorporated into the design of the Hickson Road Upgrade, ensuring that safety, visibility, and accessibility have been addressed.

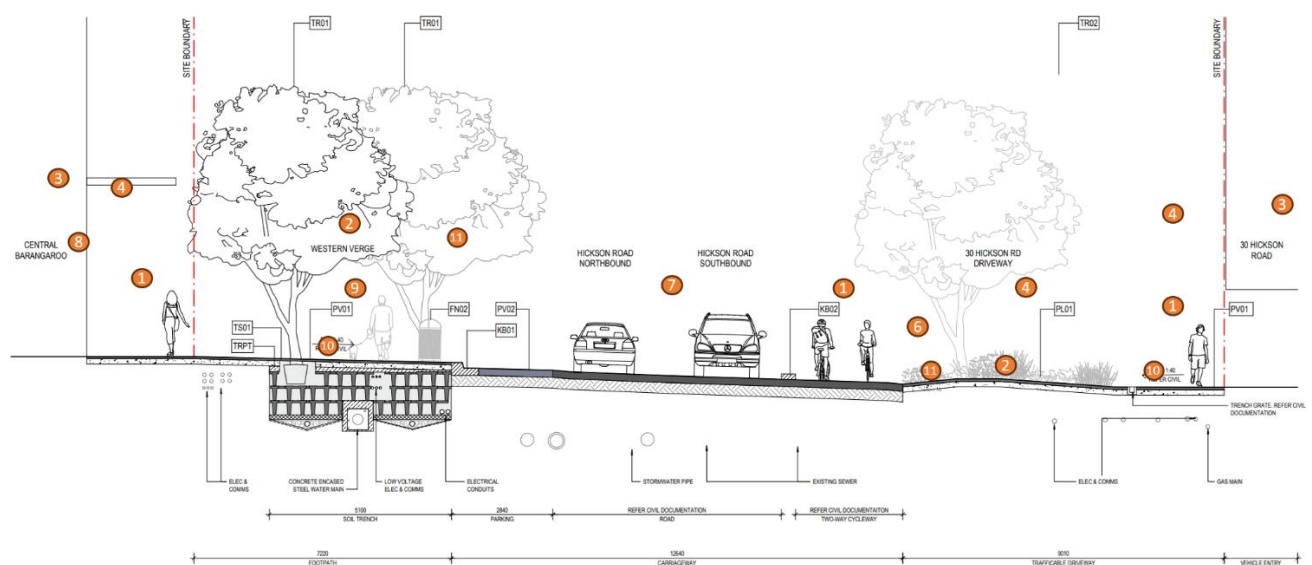


Figure 10: Hickson Road in-scope zones Vehicle, Pedestrian & Cycling Networks.

Principle 1: Surveillance.

1. Footpaths, cycling networks, and vehicle routes have been designed in close proximity to one another to maximise activity levels and enable effective passive surveillance.
2. Low shrubs and high-canopy trees have been included in the landscape design to maintain clear sightlines and visibility throughout the area.
3. Passive surveillance opportunities have been integrated through the orientation and design of adjacent buildings and active frontages.
4. A comprehensive lighting design has been incorporated to ensure consistent illumination and eliminate dark areas and shadowing.
5. Implement CCTV cameras to monitor traffic, pathways & cycling networks to deter criminal activity.

Principle 2: Territorial Definition.

5. Pedestrian and cycling route are wide enough to allow pedestrians/cyclists to easily pass each other.
6. Clear transition between pedestrian, cycle pathways and roadways spaces through changes in surface treatment and soft and hard landscaping.
7. Adequate signage have been included to assist wayfinding.

Principle 3: Access Control.

6. Defined zones and landscape barriers that demarcates and separates defined Vehicle Zones.

Principle 4: Space Management.

7. Paving is level and trip-free to support pedestrian movement.
8. A well-maintained landscape demonstrates a sense of ownership deterring criminal behaviour.

3.6.3 Activity Centres

Although the development may not be perceived as an activity centre, having a mixture of activities and events occurring during the day and night, the area being

developed is within the periphery of activity centres located within the surround areas.

Therefore, the following CPTED principles and consideration for the transit to activity centres are recommended.

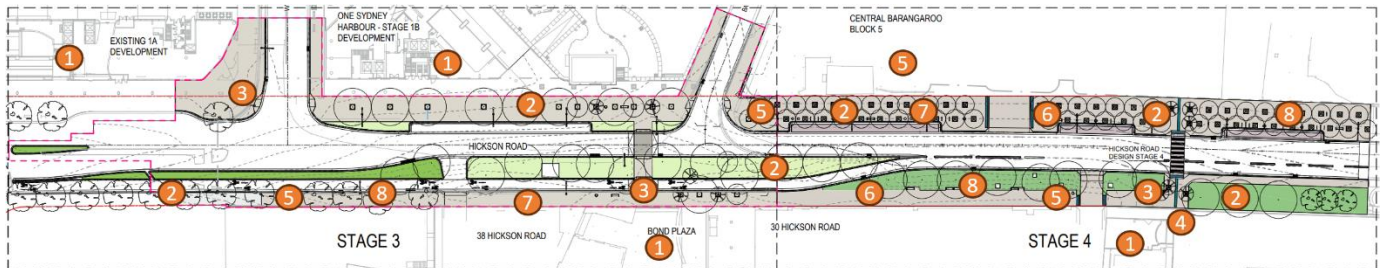


Figure 12: Hickson Road in-scope zones Activity Centres.

Principle 1: Surveillance.

1. Balconies and windows overlooking the street to support passive surveillance.
2. Tree canopy and shrubs are kept low/high to not block natural sight lines.
3. Access routes to activity areas are well-lit to support night-time activity.

Principle 2: Territorial Definition.

1. Clear and easy access to public transport with adequate signage to assist wayfinding.
2. Well-connected, and safe pedestrian walkways.

Principle 3: Access Control.

The use of bollards or landscaping have been designed to prevent vehicular access to pedestrian zones.

Principle 4: Space Management.

3. Paving is level and trip-free to support pedestrian movement.
4. A well-maintained landscape demonstrates a sense of ownership and deterring criminal behaviour.

4. Conclusion

In summary, the CPTED findings for the Hickson Road Upgrade – Stage 3 and 4 area, as per the Australian Bureau of Statistics shown in the Red Suburbs Crime map of Australia reveal a significant concern regarding a high occurrence of crime compared to the state average. The five-year trend analysis, specifically noting an incremental increase in violent and property crime within the Barangaroo precinct. Considering this, it is noteworthy to highlight that crime rates in the Sydney Local Government Area, especially in CBDs, tend to be higher than the state-wide averages.

The application of CPTED principles to vehicles, pedestrians, and cycling networks in the redevelopment area presents a holistic approach to enhance functionality and security. The principles, such as Surveillance, Territorial Definition, Access Control, and Space Management, provide a comprehensive framework for designing spaces that promote a sense of security. The specific recommendations, including maximizing passive surveillance, installing well-lit areas, and implementing surveillance cameras, aim to create an environment that deters criminal activity.

Furthermore, the application of CPTED to activity centres reinforces the importance of safety in public spaces. By emphasizing principles such as Surveillance, Territorial Definition, Access Control, and Space Management, these areas can be transformed to not only improve safety but also positively influence public perceptions of the surrounding environment. The incorporation of features like clear wayfinding, level paving, and well-maintained landscapes underscores the multifaceted nature of CPTED in creating secure and inviting public spaces.

In conclusion, the findings and recommendations from the CPTED analysis have been applied to the design of the Hickson Road redevelopment area. By integrating these principles into the urban planning and design, the project creates an environment that deters criminal behaviour while enhancing the overall safety, accessibility, and well-being of the community.

ACAD Services considers that the Hickson Road design principles and space layouts, provide a suitable and functional environment. The designed elements indicate the

development has been designed with safety in mind. This should lead to a reduced likelihood of anti-social or criminal behaviours at the site.

By using the recommendations contained in this assessment, criminal activity should be reduced and the safety of members of the community should be increased. However, it does not guarantee that all risks have been identified, or that the area assessed will be free from criminal activity if its recommendations are followed.

ACAD Services uses its best endeavours to gather and process information relative to the scope of service but cannot be held responsible for the accuracy of information provided by others.

