



URBIS

DUNDAS STATION PRECINCT

URBAN DESIGN AND VISIONING REPORT

PREPARED FOR
AMD DUDLEY STREET PROPERTIES
JULY 2018
FINAL REPORT



RE-IMAGINE DUNDAS

PURPOSE OF THIS DOCUMENT

This Urban Design and Visioning Report has been prepared by Urbis on behalf of AMD Dudley Street Properties to support the future transformation of Dundas, leveraging on the opportunity that the new light rail line and stop will bring.

The purpose of this report is to:

- Position Dundas Station Precinct in its regional context, ensuring that the vision of the precinct aligns with the emerging planning directions for Greater Parramatta and the Central City District.
- Analyse the site and context to identify key moves within the neighbourhood to unlock the potential of Dundas precinct.
- Identify a set of place-making strategies to guide the renewal of Dundas precinct.
- Present a vision for the urban renewal of Dundas that can be used by Council or DPE as the basis for further detailed investigations.
- Provide a rationale for the proposed new built form and density supported by key urban design principles.
- Provide an indicative concept plan and rationale for the enhancement of Dundas Precinct's public domain.

KEY PRINCIPLES TO DELIVER NEW DUNDAS STATION PRECINCT

This concept master plan for Dundas Station Precinct has been guided by following principles:

1 A GRAND ARRIVAL FOR DUNDAS

The new light rail station and Winjoy Reserve marks the arrival and address to Dundas and reinvigorates the local centre at Dundas. The local centre is re-envisioned with gateway marker buildings and ground floor activation that is orientated to the future light rail stop and Winjoy Reserve, optimising the amenity and future activities around this new meeting place and destination.

2 AN ACTIVATED PLACE FOR PEOPLE

Dundas Station Precinct will be a safe, comfortable and inspiring place for people to live and play. Winjoy Reserve will be further embellished and connected to the centre with clear entrances and sight-lines from the centre and surrounding mixed-use precinct.

Good access to a variety of retail choices including shops and cafes at ground level will invigorate life on the street. Ground floor activation will be enhanced by outdoor cafe seating, plazas or play spaces at prominent locations or corners. Landscape and street planting will provide comfort, encouraging people to stay and interact socially.

A boost to the use of active transport for Dundas is the new light rail line which also forms the primary active transport corridor and pedestrian connection to the area. Dundas will be a new destination in this corridor and active transport is supported by the provision of facilities such as bike parking and storage.

3 CONNECTIVITY IS KEY

Dundas Station Precinct will maximise permeability across the precinct and it's surrounding neighbourhood through the provision of new pedestrian and road connection points from Rippon Avenue and Kissing Point Road, as well as enhancing the function of existing local streets, particularly Calder Road and Dudley Street. Calder Road and Dudley Street will act as the main vehicular arrival point and drop-off to the Light Rail Station, supported by pedestrian and cycle link access in and around the precinct.

4 CONNECT TO THE NATURAL NETWORKS

Vineyard Creek, Winjoy Reserve and Subiaco Creek provide the primary opportunities to connect green spaces and waterways for the community living in Dundas. Streets within Dundas will consider these key connections in the future streetscape character to provide green infrastructure/canopies linking these places together.

Key north-south roads include Dudley Street, Crowgey Street, Station street (with a proposed new linear green connection from Calder Road to Vineyard Street) and Rippon Avenue to the east of the light rail line. East-west connections include Calder Road and Vineyard Street and a new pedestrian extension from Crowgey Street to Rippon Avenue.

5 ACTIVATE & INTENSIFY

The master plan captures and optimises the latent value brought by the infrastructure investment on Dundas Light Rail Station, by locating mixed-use and density within the walkable catchment of the centre where the light rail station is located. Density in the precinct gradually transitions to lower built form scale and intensity as distance from the light rail station increases.

“THE NEW LIGHT RAIL LINE AND STOP AT DUNDAS IS A CATALYST FOR RENEWAL. THE REALISATION OF DUNDAS AS A STATION PRECINCT IS CENTRAL TO THE NEIGHBOURHOOD'S GROWTH AND FUTURE PROSPERITY.”

LEGEND

- Dundas Station Precinct
- 1 New Light Rail Stop
- 2 Winjoy Reserve
- 3 Linear Park Connector
- 4 Towers as Visual Markers
- 5 Mixed-use Residential with Retail Ground Floor
- 6 New Access Street
- 7 Pedestrian Connection
- 8 Elevated Pedestrian Bridge
- 9 Communal Green Space/ Amenity
- A Low Rise Residential (≤ 4 storeys)
- B Mid-Low Rise Residential (5-6 storeys)
- C Mid-Rise Residential (7-12 storeys)



Figure 1 Dundas Station Precinct Concept Master Plan

“
THE EXISTING URBAN STRUCTURE, NATURAL
FEATURES AND LATENT RESIDENTIAL
CHARACTER OF DUNDAS PROVIDE THE
BASIS UPON WHICH TO BUILD A LOCAL
PRECINCT FOR THE COMMUNITY.

CONTENTS

- 1.0 REGIONAL POSITIONING 6
- 2.0 KEY CONSIDERATIONS 8
- 3.0 THE MASTER PLAN 18
- 4.0 PROPOSED CONTROL 38



REDUCED TRAVEL TIMES TO KEY DESTINATIONS

The new Parramatta Light Rail network will significantly increase accessibility for the residents of Dundas Station Precinct, providing more frequent and direct connections to major employment, education and healthcare precincts, entertainment hubs, sport stadiums and leisure areas.



OPPORTUNITY FOR A LOCAL MARKER

Dundas Station Precinct is located on a highpoint along a flat area of the ridgeline with falls to Subiaco Creek to the north and Vineyard Creek to the south. This allows for compact development in proximity to the station, with minimal impacts whilst also providing local markers to contribute to wayfinding and legibility.



ACCESS TO JOBS

The proximity and direct connectivity to key institutional and employment precincts such as Parramatta CBD and Rydalmere Education Precinct, Rydalmere Industrial Area and Camellia provide the opportunity for Dundas to accommodate more people closer to jobs.



A WALKABLE NEIGHBOURHOOD

The existing urban structure of Dundas Station Precinct has all the required elements for intensification, including a connected and legible street network, a localised community heart with services, amenity and public transport which is serviced frequently providing convenience.



GREATER MOBILITY

Dundas Station Precinct is centrally located between Kissing Point Road to the north and Victoria Road to the south with both these corridors providing excellent connections to the greater Sydney region.



SIGNIFICANT AMOUNT OF UNENCUMBERED LAND FOR REDEVELOPMENT

Significant areas within Dundas are predominantly under single ownership with older style housing typologies and so Dundas Station Precinct possesses ample amount of unencumbered land for redevelopment opportunity.



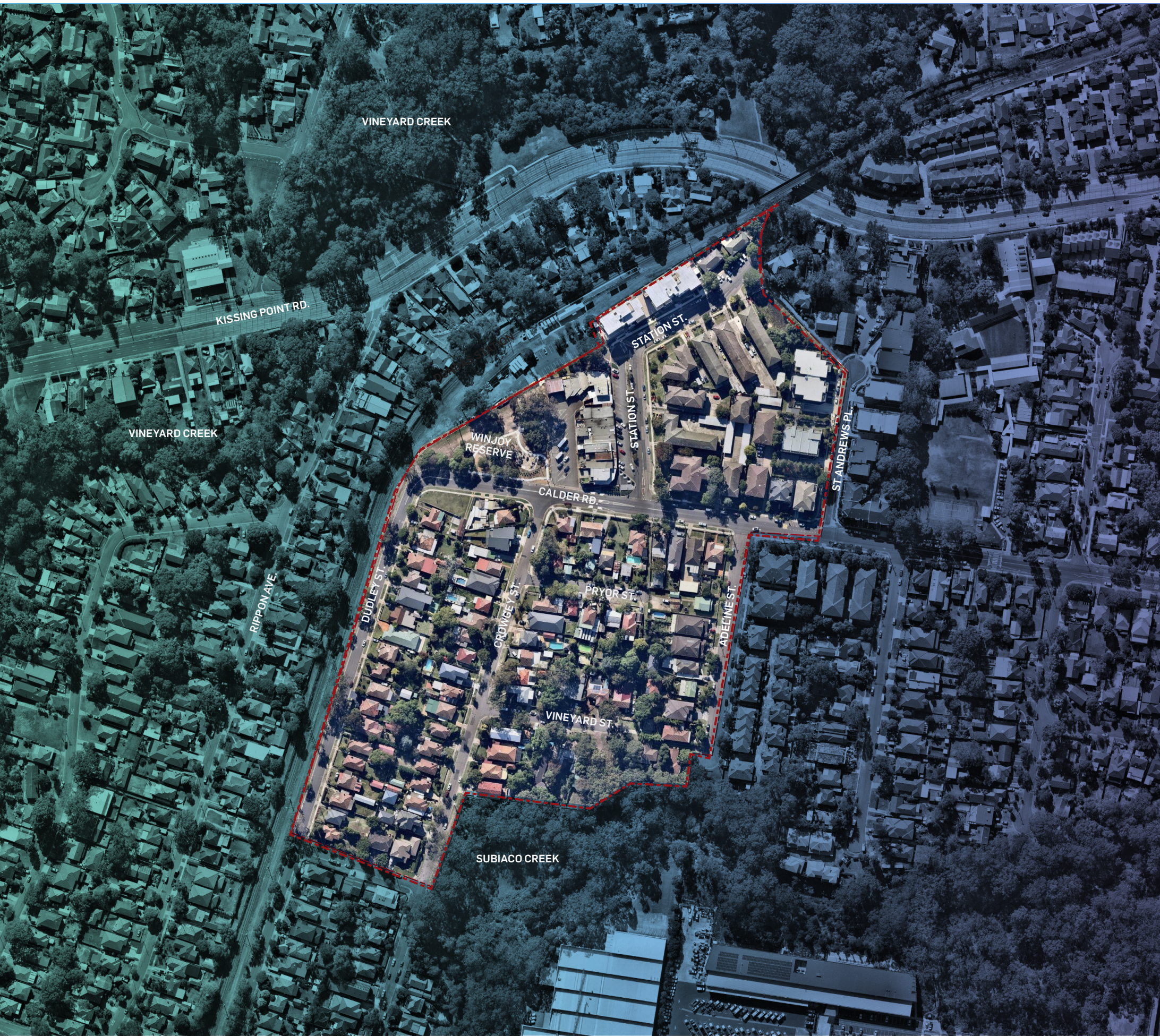
GREEN GRID CONNECTIONS AT THE DOORSTEP

Dundas Station Precinct has direct access to Vineyard Creek and Subiaco Creek corridors, ensuring a clear opportunity to connect between these places. Streets, key links and its new urban canopies are the foundation from which these green and blue grids will emerge.



ORIENTATE ACTIVITY TO WINJOY RESERVE, DUNDAS STATION AND KEY INTERFACES

Currently the Dundas local centre does not adequately address Winjoy Reserve and Dundas Station. To ensure safety, activity and comfort for users, re-orientate activation and intensity to these key interfaces, streets and reserves.



DUNDAS STUDY AREA

Dundas Railway Station is located approximately 5km north-east of Parramatta CBD and 25km north-west of Sydney. The Station Precinct is located immediately to the south of the station.

Dundas is one of the 16 stations within Phase 1 of the Parramatta Light Rail which will progressively replace the current Clyde - Carlingford rail line. With the provision of a more frequent and direct connection, the light rail will significantly improve access to employment centres such as Rydalmere and Parramatta, education and healthcare facilities such as Westmead Hospital.

Already, the neighbouring precincts of Camellia, Telopea and Carlingford have been identified for renewal, with significant intensification in housing and social amenities planned for. With the opening of Parramatta Light Rail in 2023, Dundas will also attract growth and renewal.

The study area comprises 10 ha of land, bound by Dudley Street to the west (parallel to the rail line), Reserve Street to the south-west, Adeline Street and St Andrews Place to the east, and Subiaco Creek to the south.

With the potential to create direct connection from Kissing Point Road and Rippon Avenue, the area north of Dundas Station and rail line has been considered as part of the investigation on the potential renewal of the study area.

Dundas Railway Station and the existing small scale retail located immediately adjacent to Dundas Station and Winjoy Reserve currently forms the core of the precinct.

Figure 2 Dundas Station Precinct Study Area

1.0 REGIONAL POSITIONING

1.1 GREATER SYDNEY REGIONAL PLAN 2056

A 40-YEAR VISION

Released in March 2018 by Greater Sydney Commission (GSC), the *Greater Sydney Region Plan* aims to manage growth and change for Greater Sydney in the context of economic, social and environmental matters.

The Region Plan establishes the 40-year vision for Greater Sydney as a metropolis of three cities. The key principle underpinning the vision is the delivery of 30-minute cities providing better access to jobs, schools, and healthcare within 30 minutes of people's homes.

The 40 year vision will be implemented through five District Plans, which articulate a 20 year strategy for delivery. Dundas Station Precinct is located in the Central City District Plan, 5km northeast from Parramatta CBD, Sydney's Second Metropolitan City Centre.

Figure 3 provides a summary of the key initiatives for the Central City. Implications for Dundas include:

- Dundas is located along the future light rail alignment with operation to begin in 2023;
- Dundas is within area identified for Urban Renewal;

1.2 CENTRAL CITY DISTRICT PLAN

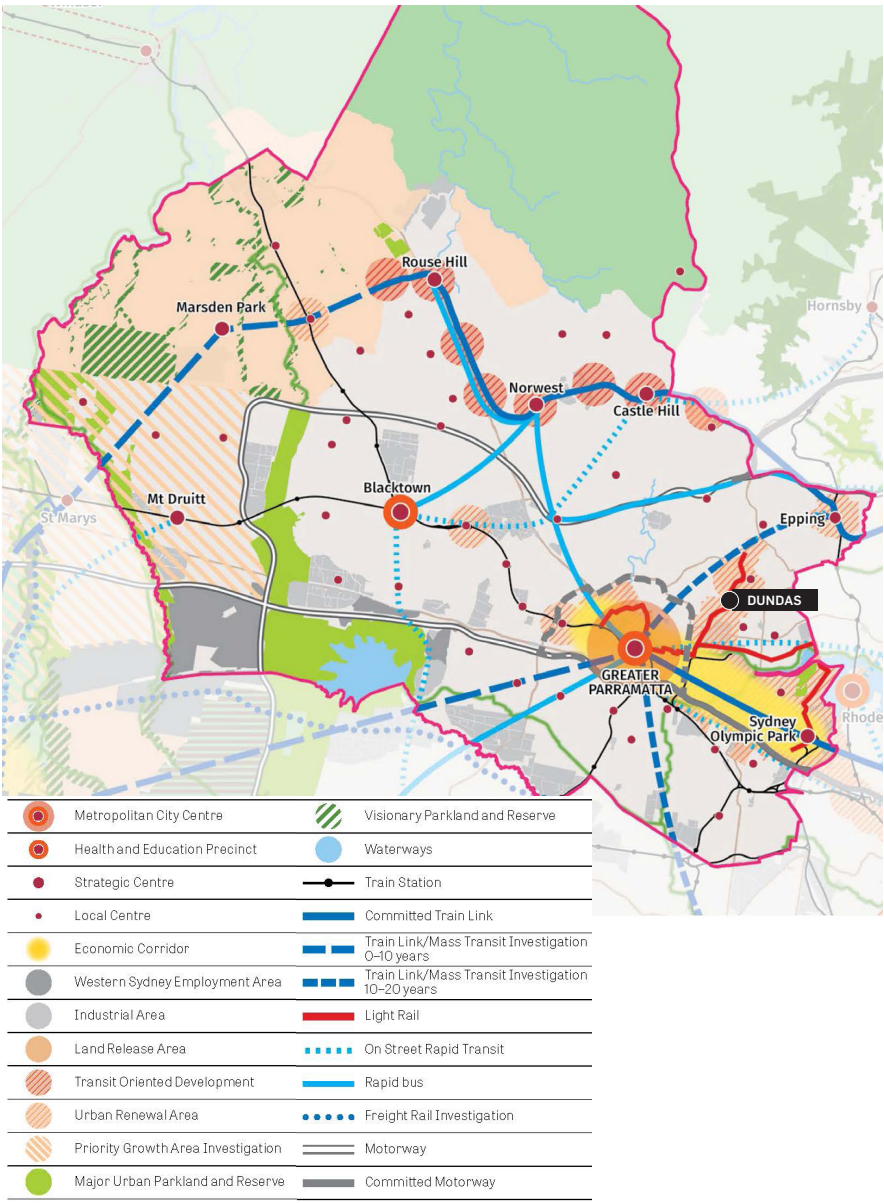


Figure 3 Dundas in the context of the Central City District Plan

A 20-YEAR PLAN

The Central River City is made up of the local governments Blacktown, Cumberland, Parramatta and The Hills, with Parramatta CBD at the heart of its growth and change.

The District Plan for the city strives to capitalise on its location in the centre of Greater Sydney, with enhanced radial transport links and continued growth for its world-class health, education and research institutions as well as its finance, business services and administration sectors to drive the economy.

The District Plan also sets out the priority to create an urban structure and identity of a 'parkland city', supported by blue and green infrastructure. The Greater Sydney Commission proposes that an established suburb, such as Dundas, should:

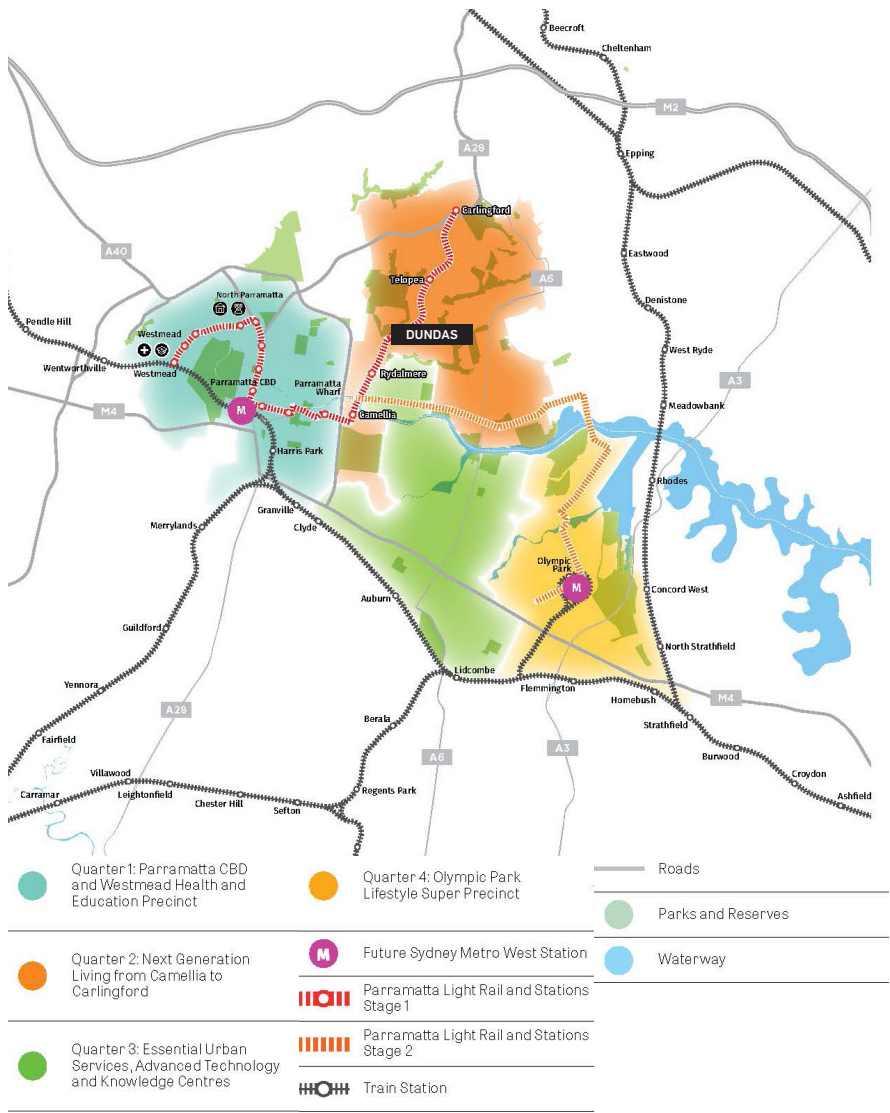
- Orientate urban systems towards the creek corridor.
- Create a transect of creek-oriented place types and things to do.
- Build a network of everyday uses within a walkable creek catchment.
- Provide creek connections and encourage waterfront activity.

In alignment with the Central City District, the relevant objectives and planning priorities for the redevelopment of Dundas Station Precinct include:

- Fostering healthy, creative and culturally rich and socially connected communities.
- Providing housing supply, choice and affordability, with access to jobs, services and public transport.
- Creating and renewing great places and local centres, and respecting the District's heritage.
- Delivering integrated land use and transport planning and a 30-minute city.
- Protecting and improving the health and enjoyment of the District's waterways.
- Increasing urban tree canopy cover and delivering Green Grid connections.
- Delivering high quality open space.

“THE CENTRAL CITY DISTRICT IS ONE OF THE MOST DYNAMIC AND RAPIDLY GROWING REGIONS IN AUSTRALIA. THIS DISTRICT PLAYS A PIVOTAL ROLE IN GREATER SYDNEY’S FUTURE AS AN ECONOMIC AND EMPLOYMENT POWERHOUSE, A CORE HUB FOR TRANSPORT AND SERVICES AND THE HOME OF VIBRANT AND DIVERSE CENTRES AND COMMUNITIES.

1.3 GREATER PARRAMATTA TO THE OLYMPIC PENINSULA (GPOP)



As part of the initiative to deliver a Greater Sydney, Greater Sydney Commission (GSC) introduced a Growth Infrastructure Compacts model to plan, prioritise and coordinate infrastructure at areas with potential for significant residential and employment growth. The model aims to develop a shared vision along with a long-term strategy for the potential areas with a more robust place-based and evidence based methodology, through collaboration and cooperation between government agencies, local communities and industries.

Being identified as the first Growth Infrastructure Compact for Sydney, GPOP promotes development of the potential areas with co-existing water, energy and transport uses to generate a range of employment types that are to be support by diverse and varied housing choices.

The GPOP is a 4,000-hectare area with four distinct quarters, spanning 13 km east–west from Strathfield to Westmead, and 7 km north–south from Carlingford to Lidcombe and Granville.

Dundas Station Precinct is located in 'Quarter 2: Next Generation Living', which extends from Camellia to Carlingford. GPOP Quarters are linked by the Parramatta Light Rail Corridor, of which Dundas is one of the stations. The potential for the renewal of Dundas is considered in alignment with the growth identified precincts, including Camellia, Telopea and Carlingford.

Figure 4 Dundas in the context of GPOP quarters

2.0 KEY CONSIDERATIONS



KEY CONSIDERATION 1

REDUCED TRAVEL TIMES TO KEY DESTINATIONS

With the Greater Sydney's vision to support 30-minutes access to the nearest Metropolitan Centre, significant investment has been identified for transport networks to and between metropolitan and strategic centres.

Parramatta Light Rail is one of these key infrastructure investments currently being delivered by the NSW Government. In May 2018, Stage 1 was approved by the Minister for Planning and Environment, with construction to commence in late 2018. Services are expected to commence in 2023, connecting Westmead to Carlingford via Parramatta CBD and Camellia.

A key benefit of the light rail to Dundas is the provision of a more direct connection with reduced travel times to key destinations including Parramatta CBD. Dundas, as one of the stations between Parramatta CBD and Camellia has the capacity for redevelopment into a vibrant mixed-use precinct.

A second route for the Light Rail was announced in October 2017 to connect Stage 1 including Dundas to Sydney Olympic Park via Ermington, Melrose Park, and Wentworth Point along a 9km route. The business case of this Stage 2 alignment is expected to be completed in 2018 with details on investment decision and construction to follow.

KEY INSIGHTS

- The new light rail network will significantly reduce travel times for residents of Dundas to key destinations in the Central City, including Westmead, Parramatta CBD, Sydney Olympic Park, as well as entertainment hubs, sport stadiums and leisure areas.

LEGEND

	Dundas Station Precinct		800m walking catchment
	Light rail network & stops (Stage 1)		Main Transport Interchange
	Train network & stops		Educational and Health Precincts
	Bus interchange		Civic Centre
	Light rail interchange		Retail
	Train interchange		Major Parkland
	Ferry stop		

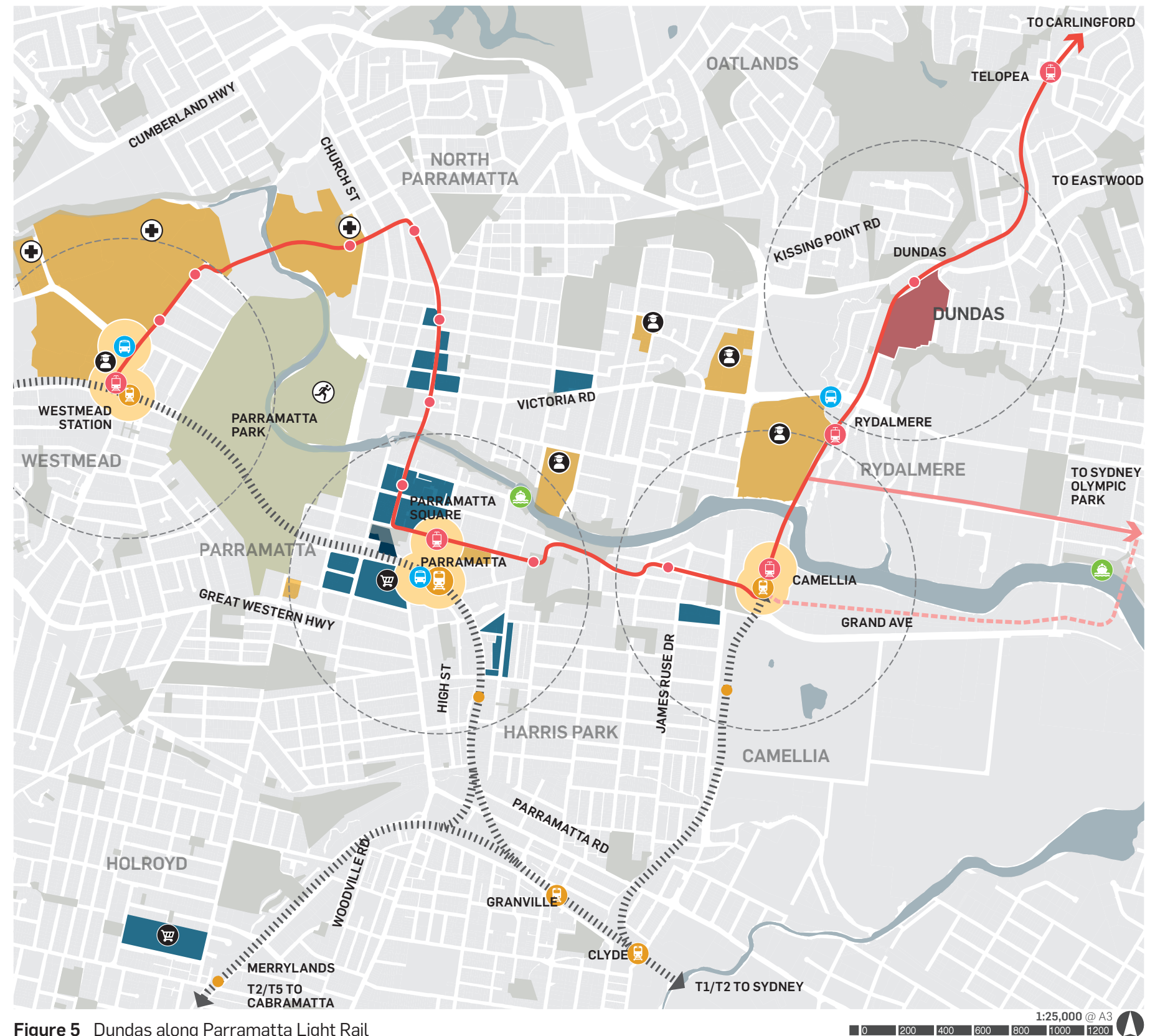


Figure 5 Dundas along Parramatta Light Rail

KEY CONSIDERATION 2 **ACCESS TO JOBS**

Dundas Station Precinct will be within 30 minutes to 257,000 jobs by 2041, offered at

- The three economic engines including Parramatta CBD, Westmead and Sydney Olympic Park.
- Urban Services and Industrial Areas including Rydalmere Industrial Precinct, Camellia, Silverwater, Auburn and Clyde.

More specifically, Dundas Station Precinct has good access to range of educational facilities such as:

- Dundas Public School located at the immediate east of the precinct
- Western Sydney University Parramatta Campus located 1km south-west of the precinct
- Rydalmere Public School;
- St Patricks Marist College










Parramatta CBD is Sydney's second metropolitan city centre and the surrounding employment, education and healthcare precincts are facing accelerated growth in alignment with the population and economic growth within the area. As part of this growth, these precincts are also transitioning into clusters for advanced manufacturing and new skills with a 21st century clean-tech, whilst also retaining the important role of industrial and urban services land within these precincts.

The strategic growth of these precincts will provide tremendous opportunities for Dundas Station Precinct to have improved access to a diverse range of employment, health services and educational facilities, which in turn makes it a desirable place to live.

KEY INSIGHTS

- The proximity and improved connectivity to employment, services, education and healthcare precincts will place increasing pressure on Dundas to accommodate additional housing and at an accelerated pace of growth.

LEGEND

	Dundas Station Precinct		800m walking catchment
	Educational Institutions/ Facilities		Light rail network & key stops (Stage 1)
	Economic Anchors		Light rail network & stops (Stage 2)
	Central Advanced Technology, Urban Services and Industrial Area		Train network & stops
	GPOP Boundary		

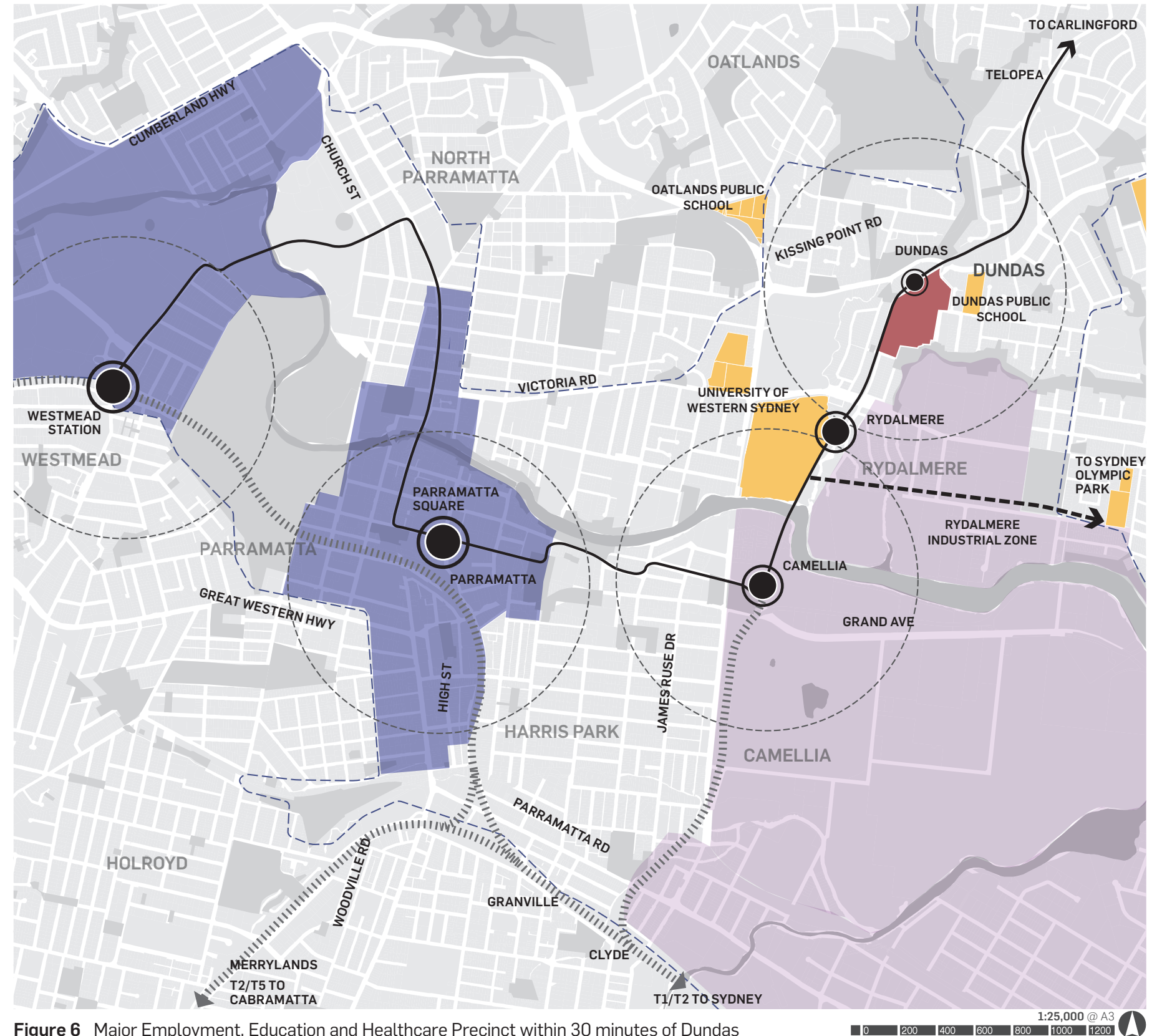
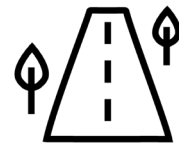


Figure 6 Major Employment, Education and Healthcare Precinct within 30 minutes of Dundas



KEY CONSIDERATION 3 GREATER MOBILITY

Dundas Station Precinct is located between two major road corridors of Kissing Point Road and Victoria Road with excellent access to Sydney CBD, Macquarie Park, the Parramatta CBD and the M7. The precinct is connected to these regional arterial roads by two local roads which act as key connectors within the precinct being:

- Crowgey Street that runs north south connecting to Victoria Road in the south, which links North Parramatta to Sydney CBD; and
- Calder Road that runs east west connecting to Park Road and onto Kissing Point Road in the north.

Kissing Point Road connects to James Ruse Drive in the west which is the main north south arterial road connecting Parramatta Road and the M7, Silverwater Road in the east, a north south arterial road connecting the northern suburbs to the western suburbs such as Bankstown.

KEY INSIGHTS

- Dundas Station Precinct is centrally located between Kissing Point Road to the north and Victoria Road which connects to the Parramatta CBD, Sydney CBD and Macquarie Park.
- The well established regional road network around the precinct provides convenient access to key employment precincts, including Rydalmere, Camellia, the Parramatta CBD and Sydney Olympic Park.

LEGEND

- Dundas Station Precinct
- Regional road network
- Primary collector streets
- Local streets
- Neighbourhood streets

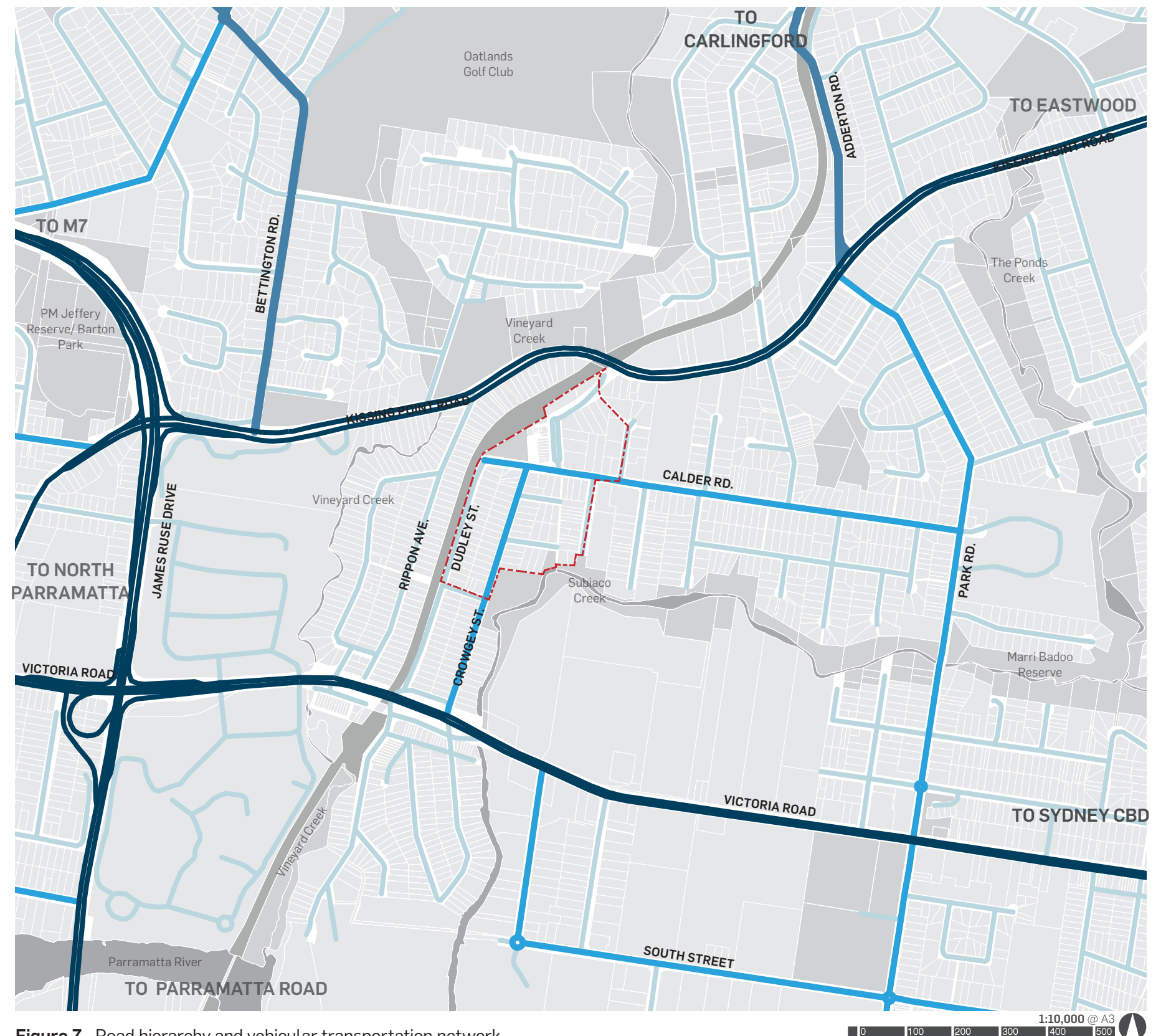
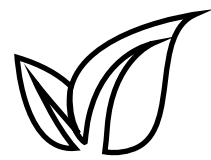


Figure 7 Road hierarchy and vehicular transportation network

1:10,000 @ A3
0 100 200 300 400 500



KEY CONSIDERATION 4

GREEN GRID CONNECTIONS AT THE DOORSTEP

Dundas Station Precinct has an opportunity to support the implementation of Greater Parramatta's strategy for an interconnected network of great streets linking to a variety of open spaces both passive and active.

The precinct benefits from two key natural features that offers a generous access to the existing green amenities, including:

- Vineyard Creek Reserve that runs along the northeast towards southwest of the precinct, connecting to Parramatta River; and
- Subiaco Creek Reserve along the southern boundary of the study area that leads direction towards the Marri Badoo Reserve and the Ponds Walk further east and Parramatta River further south.

Being identified as a Green Grid Priority Corridor, Parramatta River offers a series of civic open spaces, pocket parks, waterfront activation and recreational facilities along it's course. As an initiative to implement this green grid corridor, Parramatta City Council has developed a Metropolitan Greenspace Program, 'Parramatta Ways' to shape an interconnected open space system within Greater Parramatta, with the offering of green infrastructure that enhances the character of the neighbourhood and the provision of walkable open space networks that link local communities together.

Dundas Station Precinct and its existing natural networks possess ample opportunity to realise these blue and green links. Comfortable streets for all users will be underpinned by a good amount of urban canopy to encourage cycling and pedestrian usage, reinforcing the open space strategies for Greater Parramatta.

KEY INSIGHTS

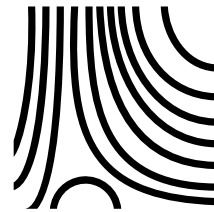
- Dundas Station Precinct has direct access to Vineyard Creek and Subiaco Creek corridors, ensuring a clear opportunity to connect between these places. Streets, key links and new urban canopies are the foundation from which these green and blue grids will emerge.

LEGEND

	Dundas Station Precinct		Park Improvement
	Railway Line		Existing Green Corridor
	Public Recreational Areas (Green Grid Infrastructure)		Potential Green Corridor Connections
	Waterways (Blue Grid)		



Figure 8 Dundas within the regional open space network



KEY CONSIDERATION 5

OPPORTUNITY FOR A LOCAL MARKER

Dundas Station Precinct is located along the flatter areas of a local ridge line. Areas of steeper gradients occur immediately to the north-west of rail corridor and south of the precinct along Subiaco Creek with slopes over 18%. Land falls approximately 5-15m towards Kissing Point Road from the boundary of the precinct, where Dundas Railway Station is located.

This topographical feature sets Dundas Station Precinct on the higher ground along flatter areas of the ridgeline ensuring good opportunity for redevelopment. More notably, the precinct has two high points at the existing neighbourhood centre that can potentially accommodate new towers as the precinct's gateway markers.

KEY INSIGHTS

- Dundas Station Precinct has the capacity for redevelopment with its position on a high ground with gentle slopes only occurring around edges of the boundary.
- Future redevelopment can utilise the high points within the neighbourhood centre by setting key buildings at the location of high point, creating a visual markers for the precinct and a landmark for way-finding.



LEGEND

- Dundas Station Precinct
- 2m Contour Line
- Ridge Line
- High Points
- View Points
- Waterway
- Gentle Slope zone - Suitable for development

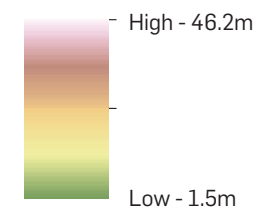
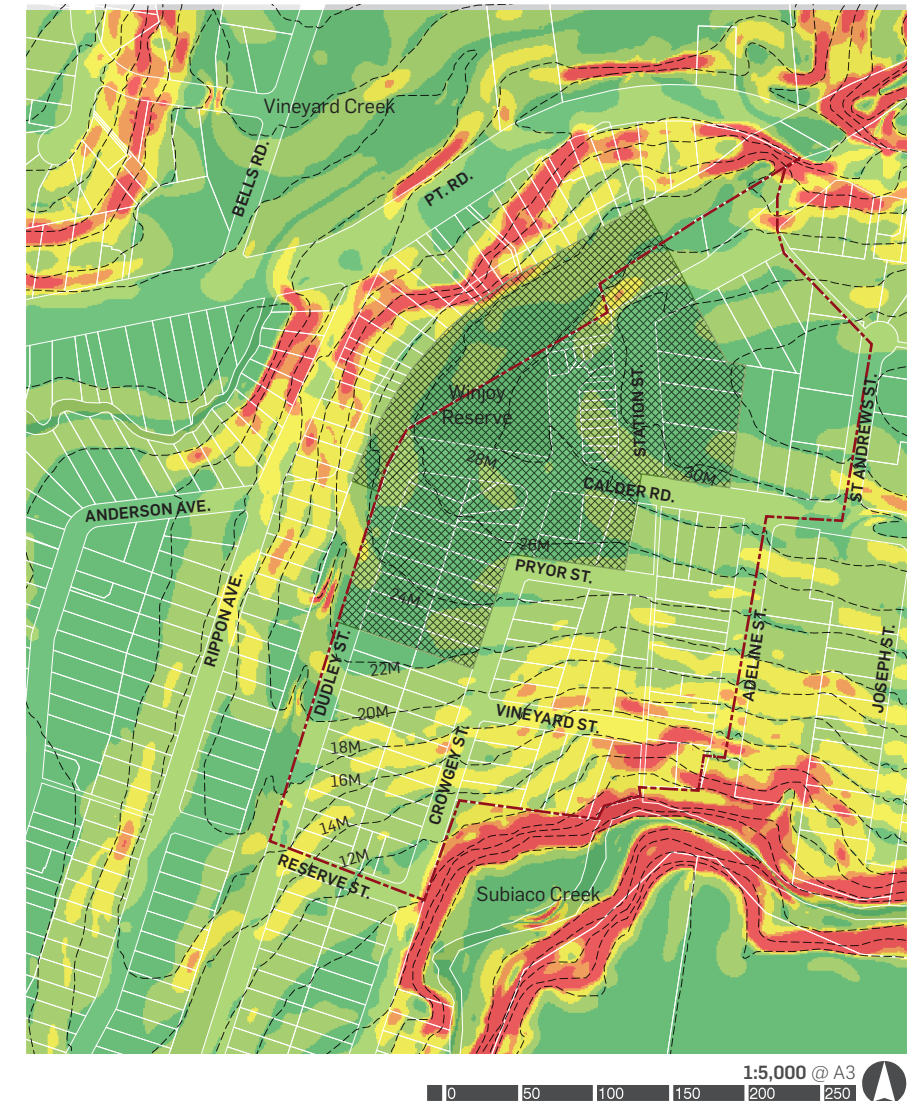


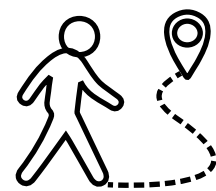
Figure 9 Site elevation analysis



LEGEND

- Dundas Station Precinct
- 2m Contour Line
- Gentle Slope zone - Suitable for development
- 0 - 5%
- 5.1 - 10%
- 10.1 - 15%
- 15.1 - 18%
- Slope over 18%

Figure 10 Site elevation analysis



KEY CONSIDERATION 6 A WALKABLE NEIGHBOURHOOD

Dundas Station Precinct has the bones of a great neighbourhood with the existing urban structure of local green spaces, connected and permeable street network and local services. However, the existing streets lack distinctiveness and character. A key opportunity of the master plan is to re-invigorate streets and support active transport modes. Other opportunities include:

- Redefine Calder Road and Dudley Street as the main spine of the precinct, with support of Crowgey Street to provide additional access from Victoria Road.
- Introduce a new neighbourhood street along the light rail to the north to support the increase density as a result of the precinct's renewal.
- Extend linkages on existing streets including Reserve Street, Pryor Street and Vineyard Street.
- Form direct pedestrian linkages between Fred Robertson Park, Dundas Light Rail and Winjoy Reserve across Kissing Point Road, as well as between Anderson Avenue to future plaza within the neighbourhood centre.
- Form a linear park connection, connecting the neighbourhood centre from Calder Street to Subiaco Creek.

KEY INSIGHTS

- Dundas Station Precinct already provide good urban structure with existing public transport service, street network and amenities such as public park. A new and improved network of great streets will enhance this existing structure and create the platform for intensification and renewal.

LEGEND

	Dundas Station Precinct		Light Rail Line
	Potential Lot Amalgamation		Road Network
	Recreational Landmarks		Precinct's Main Streets
	Major Pedestrian Crossings		Street Character Redefined
	Dedicated Pedestrian and Cycle Route		Potential New Street Connection
	Potential Nature Trail		Potential New Access Street
	New/ Enhanced Pedestrian Connection		Potential New Winjoy Reserve
	Light Rail Stop		Public Recreational Areas
			Waterways

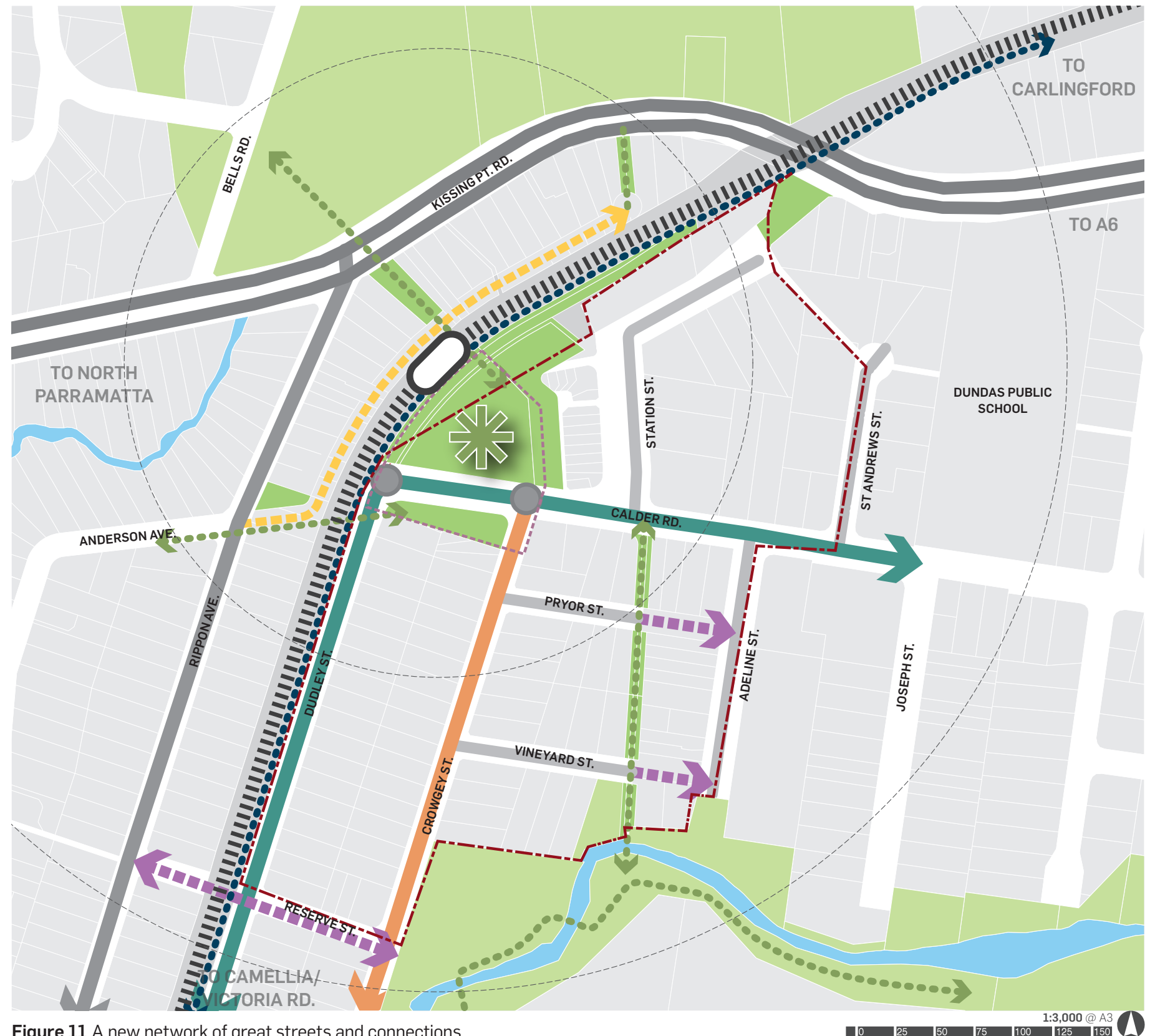
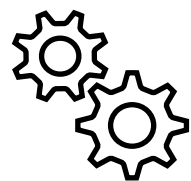


Figure 11 A new network of great streets and connections



KEY CONSIDERATION 7

SIGNIFICANT AMOUNT OF UNENCUMBERED LAND FOR REDEVELOPMENT

Dundas Station Precinct typically comprises the following land ownership patterns, including state heritage, Torrens land ownership, strata titled residential and commercial land, and, land owned by state agencies and Parramatta Council.

The existing railway station at Dundas has historical significance at a state level, representing the building along with the land where it is being situated is owned by the NSW State Government. Future redevelopment of the precinct will need to consider the future embellishment of this heritage-listed station.

Dundas Station Precinct possess a good amount of lots under single ownership which are typically detached single dwellings on parcels between 500sqm to 900sqm in area. This offers the opportunity for the precinct to create good built form outcomes through the amalgamation of these sites and incorporation of a mix in housing density.

There are also existing apartment blocks located at the north-east corner of the precinct which are strata-titled and have limited opportunity for future development due to the existence of multiple stakeholders and difficulties in acquiring and amalgamating the land within a short time-frame.

Dundas Station Centre represents area with multiple ownerships with a total of 13 retail shops' operators. As a station precinct, this area will need to be significantly uplifted to incentive redevelopment around Dundas Station and provide services and shops for a growing community at Dundas.

KEY INSIGHTS

- There is good amount of land under single ownership within the Dundas Station Precinct to incentive redevelopment around the station, ensuring ease of potential amalgamation and redevelopment of mix of housing types to be accommodated.

LEGEND

 	Dundas Station Precinct	 	Torrens Titled
 	Railway Line/ Infrastructure	 	Strata Residential
 	Dundas Railway Station (Heritage-Listed)	 	Public Recreational Areas
 	Strata Commercial	 	Waterways
 	Potential Lands for Redevelopment		



Figure 12 Ownership pattern analysis

1:3,000 @ A3
0 25 50 75 100 125 150

DUNDAS RAILWAY STATION

Dundas Railway Station was first designed and constructed by Messrs Horne and Shand in 1896. Prior to the severe fire damage in 2006, the station was the last privately built and owned station building in NSW. Being recently reconstructed in 2007, the station has been retained in a good condition.

The station is significant for it's small timber platform buildings, with a hip and gabled galvanised iron roof and a skillion extension towards the east end of the building.

The brick-faced platform with an at-grade pedestrian access crossing over the single line track is one of the key features of the station. It remains to be one of the very few railway station in NSW that has at-grade access crossing an operational railway line.

The future redevelopment of the precinct to accommodate a light rail stop will need to consider future adaptation of the station building in its heritage context.



VIEW OF DUNDAS RAILWAY STATION FROM PEDESTRIAN CROSSING WAITING AREA

1

DUNDAS STATION CENTRE

Dundas Station Centre is a neighbourhood centre of Dundas, located at the corner of Station Street and Calder Road.

The Centre has a total of 13 shop operators with only 1 vacancy available. The services provided within the centre include newsagent, chemist, hairdresser, takeaway, restaurant, bottle shop, bakery, post office, vet, solicitor, retail, dog grooming and tutor.

In the 2017 centres review by City of Parramatta Council, the cleanliness rating of Dundas Station Centre and assets had an improved rating compared to 2015. This is a positive outcome driven by recent development growth around the centre. In its current form, the centre turns its back on Winjoy Reserve and Dundas Station which is currently interfaced by carparking, servicing and back of house functions which further detracts from the perception of safety on these interfaces.

Future redevelopment of Dundas Station Precinct will lead the transition of this neighbourhood centre into an urban village, in order to accommodate greater variety of services to support the growing community.



SHOP-FRONT OF DUNDAS STATION CENTRE

2

STRATA TITLED LOTS

Dundas Station Precinct currently has a clear distribution of low to medium density apartments around the railway station, particularly at the northeast corner.

The most significant distribution of strata-title land is within the large urban block of 15 lots, bounded by Station Street to the north and west, Calder Road to the south and St Andrews Place to the east. These strata titled blocks accommodate three storey brick walk-up apartments.

More recent residential development along the railway line, fronting Station Street are 5-6 storeys height, with 0-2m building setbacks from the street.

These strata titled blocks has limited opportunity for redevelopment. Future redevelopment of Dundas Station Precinct will need to implement built form strategies to respond to the existing neighbourhood character while enhancing the landscape and public domain amenity.



STRATA UNITS ALONG STATION STREET

3

SINGLE LOTS

The majority of housing types within Dundas are single lots with detached housing, typically 1-2 stories brick and masonry housing on land parcels between 500sqm to 900sqm in area.

Within a 10 minutes walk from the Dundas Light Rail Stop, there is immediate opportunity to amalgamate these single lots into medium - high density residential apartments. The uplift is to be supported by green canopies, good connectivity and access to services and infrastructure.



TYPICAL DETACHED HOUSING AT DUNDAS STATION PRECINCT

4

KEY CONSIDERATION 8

ORIENTATE ACTIVITY TO WINJOY RESERVE, DUNDAS STATION AND KEY INTERFACES

Dundas Station Precinct reflects the trend of densification close to the station, with newer apartments along the railway line having a maximum height of 5 to 6 storeys, while the older apartment-units across Dundas Station Centre having a maximum of 3 storeys height.

The built form character of Dundas Station Precinct can typically be characterised under three categories:

- Brick and masonry housing of 1-2 stories on single lots
- Three stories brick walk-up apartments
- Medium density apartments at 5-6 storeys height, designed with flat roofs and simplistic façades.

Despite of the variety in scale and form, the existing built environment of the precinct demonstrate certain level of consistency in setback provision and building separation. However, newer developments around the station provide little to no consideration for the provision of landscape, residential amenity and apartment design quality.

The front door of Dundas is currently represented by the local centre comprising the shops on 2-30 Station Street. These shops currently turn its back on Winjoy Reserve which is fronted by an undefined parking area or lane, high fences and back of house functions to the shops. The new Dundas light rail stop and will require the re-orientation of activity to this new destination and the further upgrade of Winjoy Reserve on this stop provides a great opportunity for a destination and meeting place for Dundas.

KEY INSIGHTS

- The current condition of delapidated existing services combined with old commercial and housing stocks are potentially require a regeneration to the surrounding area, redefining the new Dundas Station Precinct.

LEGEND




-  Dundas Station Precinct
-  Neighbourhood Centre
-  Recent Development
-  Key Observation Points



Figure 13 Dundas Station Precinct's neighbourhood centre site audit

EXISTING DUNDAS STATION CENTRE



A DUNDAS STATION CENTRE TOWARDS RAILWAY STATION DIRECTION



B DUNDAS STATION CENTRE TOWARDS RAILWAY STATION DIRECTION



C RETAIL FRONTING EXISTING PUBLIC CAR PARKING



D EXISTING PUBLIC CAR PARKING



E DUNDAS STATION SERVICING AREA



F DUNDAS STATION CENTRE TOWARDS CALDER ROAD

RECENT UPGRADE & DEVELOPMENT



1 WINJOY RESERVE (RECENTLY UPGRADED)
Recent investment has already been undertaken within the precinct, primarily on Winjoy Reserve where a \$120,000 upgrade with a new playground facility has been delivered during 2016-2017



2 RECENT MEDIUM DENSITY RESIDENTIAL DEVELOPMENT

3.0 THE MASTER PLAN

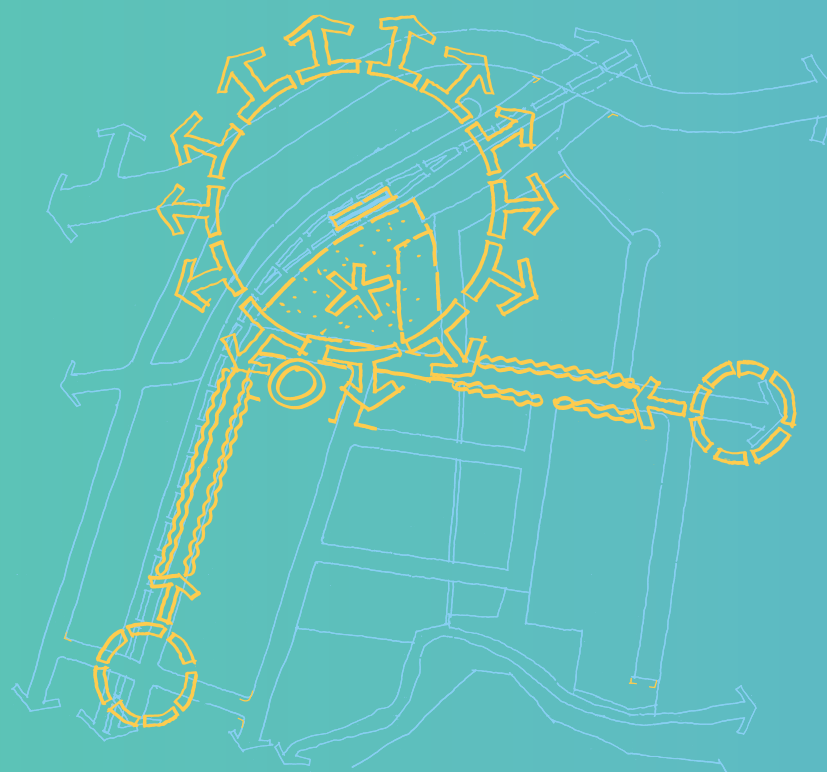
THE NEW DUNDAS STATION PRECINCT

A NEW STATION PRECINCT THAT OFFERS CONVENIENCE WITHIN A GREEN, LIVEABLE AND VIBRANT NEIGHBOURHOOD IN THE 30 MINUTES CITY

As one of the identified stop along the Parramatta Light Rail Route, Dundas Station Precinct will be a new neighbourhood hub for Dundas and potentially Rydalmere.

Dundas Station Precinct will deliver approximately 1,830 new homes, supported by a neighbourhood centre filled with retail and leisure opportunities. The neighbourhood centre will be the meeting place for Dundas and one of the key destination along Parramatta Light Rail.

DUNDAS STATION PRECINCT REDEVELOPMENT PLAN HAS BEEN GUIDED BY FOLLOWING KEY PRINCIPLES TO DELIVER A NEW GREAT PLACE FOR PEOPLE TO LIVE AND PLAY.



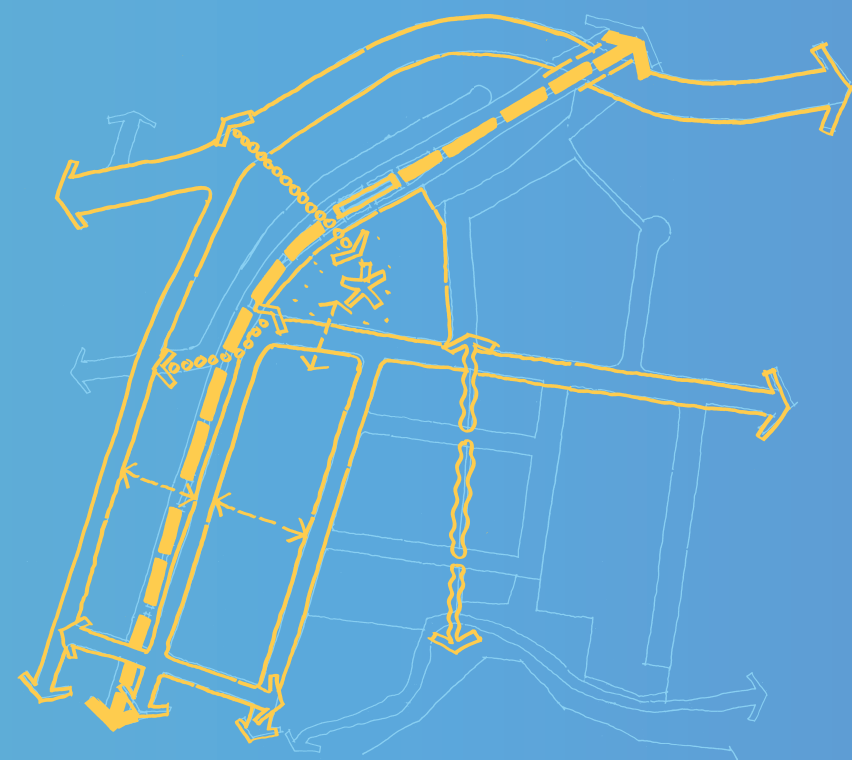
A GRAND ARRIVAL FOR DUNDAS

The new light rail station and Winjoy Reserve marks the arrival and address to Dundas and reinvigorates the local centre at Dundas. The local centre is re-envisioned with gateway marker buildings, ground floor activation that is orientated to the future light rail stop and Winjoy Reserve, optimising the amenity and future activities around this new meeting place and destination.



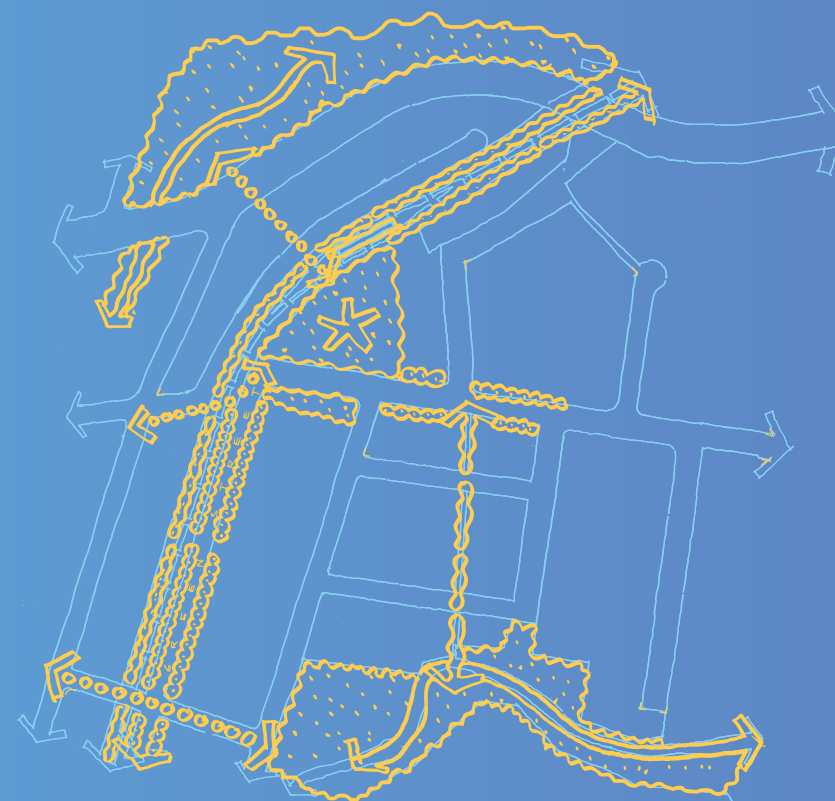
AN ACTIVATED PLACE FOR PEOPLE

Dundas Station Precinct will have a vibrant, safe and inspiring public domain for people to live and play. Winjoy Reserve will be further embellished and connected to the centre with clear entrances and sight-lines from the centre and surrounding mixed-use precinct. Good access to a variety of retail choices including shops and cafes at ground level will invigorate life on the street. Ground floor activation will be enhanced by outdoor cafe seating, plazas or play spaces at prominent locations or corners. Landscape and street planting will provide comfort, encouraging dwell time, social interaction. A boost to the use of active transport for Dundas is the new light rail line which also forms the primary active transport corridor and pedestrian connection to the area. Dundas will be a new destination in this corridor and active transport is supported by the provision of facilities such as bike parking and storage



CONNECTIVITY IS KEY

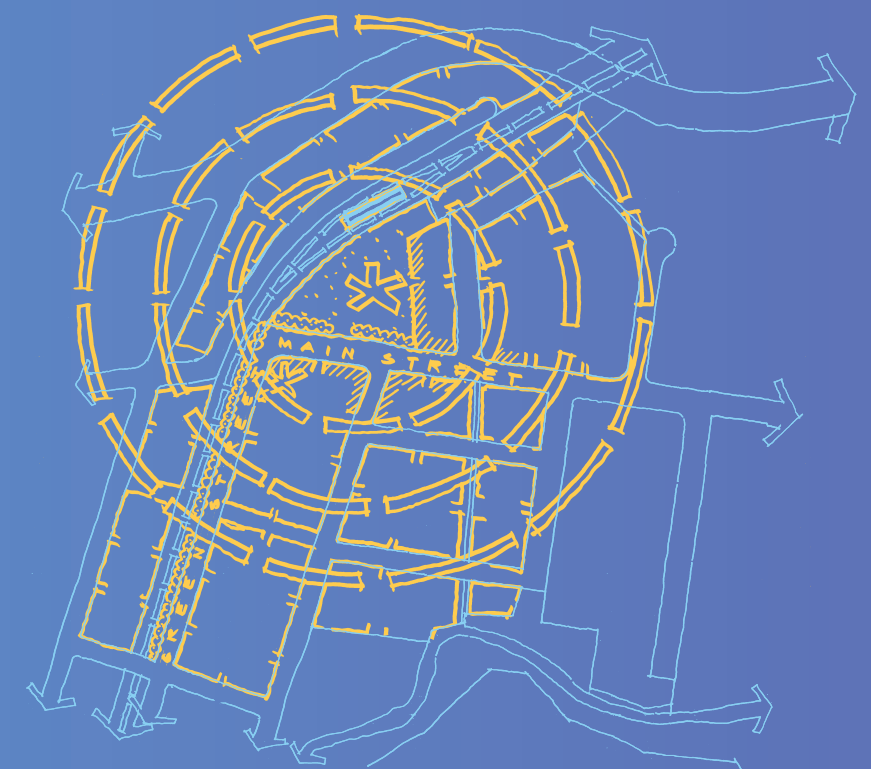
Dundas Station Precinct will maximise permeability across the precinct and its surrounding neighbourhood through the provision of new pedestrian and road connection points from Rippon Avenue and Kissing Point Road, as well as enhancing the function of existing local streets, particularly Calder Road and Dudley Street. Calder Road and Dudley Street will act as the main vehicular arrival point and drop-off to the Light Rail Station, supported by pedestrian and cycle link access in and around the precinct.



CONNECT TO THE NATURAL NETWORKS

Vineyard Creek, Winjoy Reserve and Subiaco Creek provide the primary opportunities to connect green spaces and waterways for the community living in Dundas. Streets within Dundas will consider these key connections in the future streetscape character to provide green infrastructure/canopies linking these places together.

Key north-south roads include Dudley Street, Crowgey Street, Station street (with a proposed new linear green connection from Calder Road to Vineyard Street) and Rippon Avenue to the east of the light rail line. East-west connections include Calder Road and Vineyard Street and a new pedestrian extension from Crowgey Street to Rippon Avenue.



ACTIVATE & INTENSIFY

Capture and optimises the latent value brought by the infrastructure investment in Dundas with the new light rail line and stop by locating mixed-use and density within a walkable catchment of the centre. Density in the precinct gradually transitions to lower built form scale and intensity as the distance from the light rail station increases.

LEGEND

- Dundas Station Precinct
- 1 New Light Rail Stop
- 2 Winjoy Reserve
- 3 Linear Park Connector
- 4 Towers as Visual Markers
- 5 Mixed-use Residential with Retail Ground Floor
- 6 New Access Street
- 7 Pedestrian Connection
- 8 Elevated Pedestrian Bridge
- 9 Communal Green Space/ Amenity
- A Low Rise Residential (≤ 4 storeys)
- B Mid-Low Rise Residential (5-6 storeys)
- C Mid-Rise Residential (7-12 storeys)



Figure 14 Dundas Station Precinct Concept Master Plan

LEGEND

- Dundas Station Precinct
- ✱ Recreational Landmarks
- ✱ Landmark Towers
- Open Space Nodes
- Major Pedestrian Crossings
- Retail Activation
- Kiss and Ride
- Bus Stop
- Light Rail Line
- Light Rail Stop
- ↔ Pedestrian Connection
- ↔ Dedicated Pedestrian and Cycle Route
- 400m & 800m radius
- Main Arterial Road
- Collector Street
- Local Street
- ➔ Indicative Vehicular Access
- Mixed Use
- Residential
- Public Recreational Areas
- Waterways

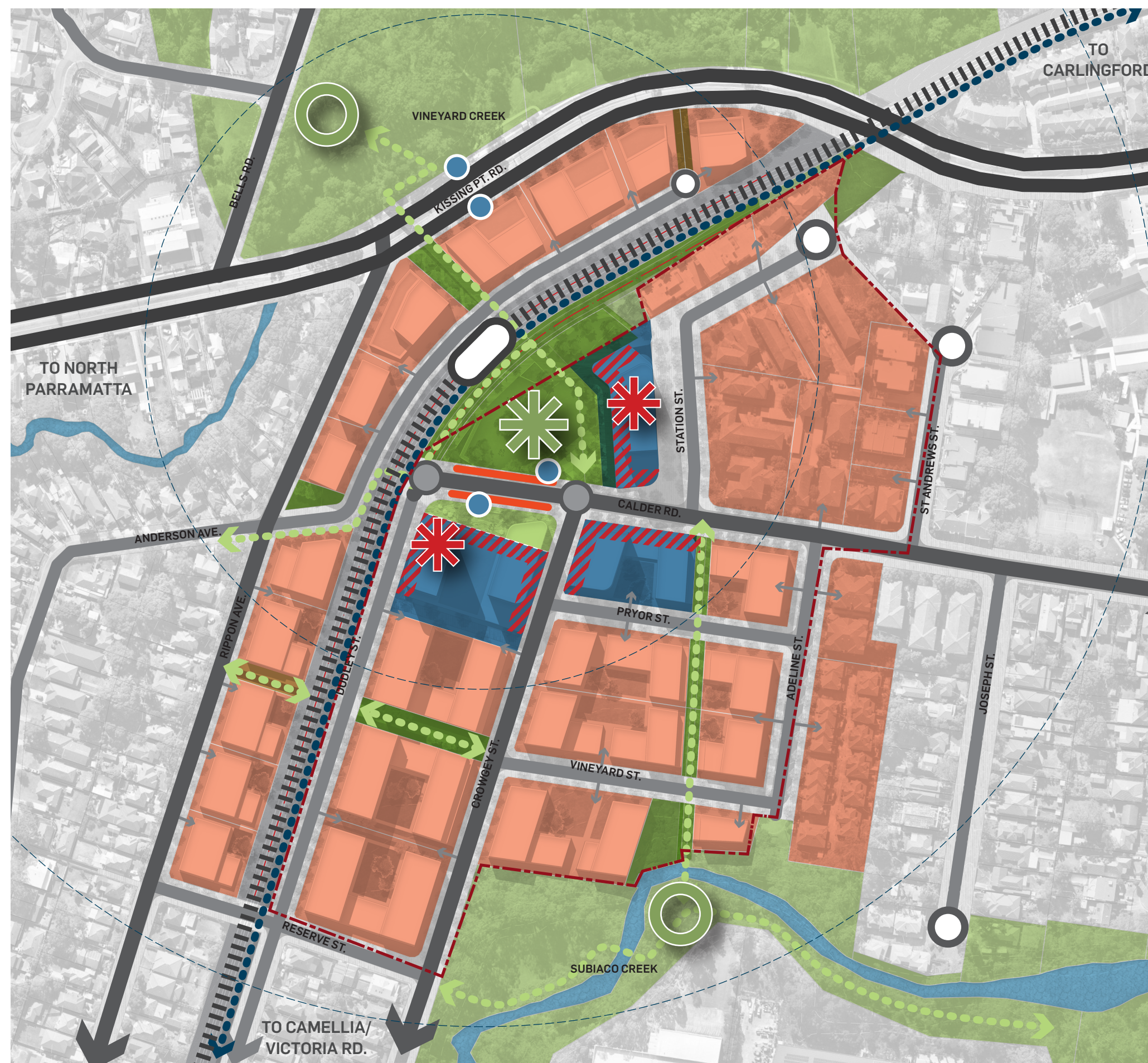


Figure 15 Dundas Station Precinct Structure Plan

PRINCIPLE 1.

A GRAND ARRIVAL FOR DUNDAS

The arrival experience into Dundas will be clearly identifiable with gateway marker buildings demarcating the stop, a reinvigorated local centre and Winjoy reserve and intensification of uses on the ground plane around this new destination.

Winjoy Reserve and the light rail stop will be a destination for visitors and a meeting place for the community of Dundas, supported by a variety of retail choice, services and community facilities.

KEY MOVES

- Mark the arrival precinct of Dundas with taller forms and intensity of uses.
- Emphasise the north-facing plaza opposite Winjoy Reserve as an extension of the public domain and front door for a new mixed use development.
- Provide new pedestrian connection from Winjoy Reserve through to the light rail station overpassing Kissing Point Road to connect the surrounding neighbourhoods such as Telopea.
- Provide a new pedestrian connection from Rippon Avenue across the railway line to the new precinct to increase permeability within Dundas.
- Support the light rail corridor as part of the active transport corridor by providing supporting infrastructure such as bike parking and storage in the precinct redevelopment.

LEGEND

Dundas Station Precinct

Landmark Towers - Visual Markers

Mixed Use Residential Building

Public Open Space

Light Rail Stop

Light Rail Line

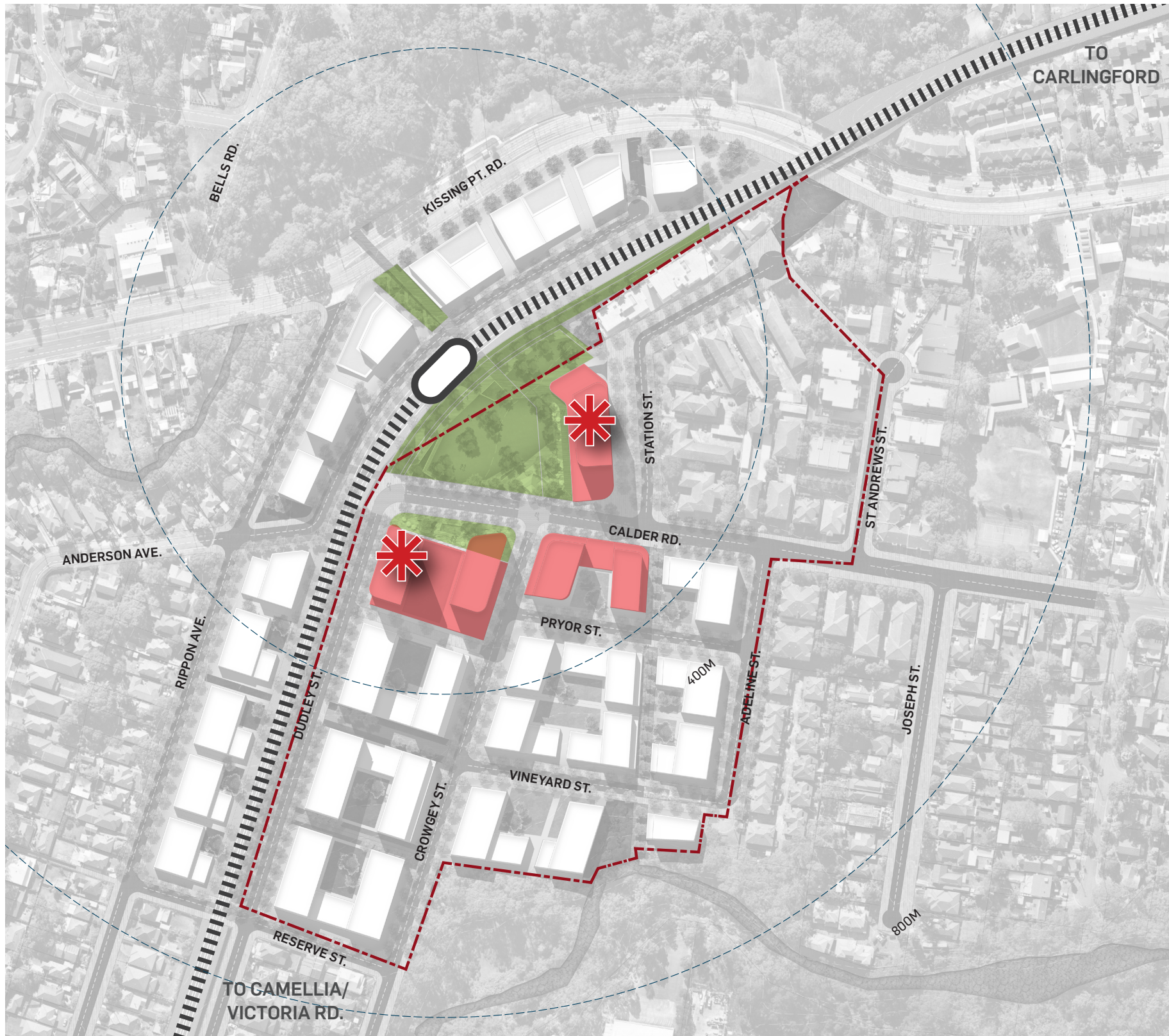


Figure 16 Dundas Station Precinct's Social Infrastructure and Public Amenities Plan

DUNDAS ARRIVAL PRECINCT PRECEDENT

The following images illustrate examples of an active public domain and open space that provides active recreational uses, good passive surveillance, and a place-based landscape design that reflects the neighbourhood character.



Light Rail Arrival Plaza and Landmark Tower (Telopea)



Public Green Infrastructure for Community (Telopea)



Weekend Markets (Brewery Yard Markets, Sydney)



Ground Level Entrance Treatment (Central Park, Sydney)



Figure 17 Dundas Station Precinct Arrival Precinct - Ground Level

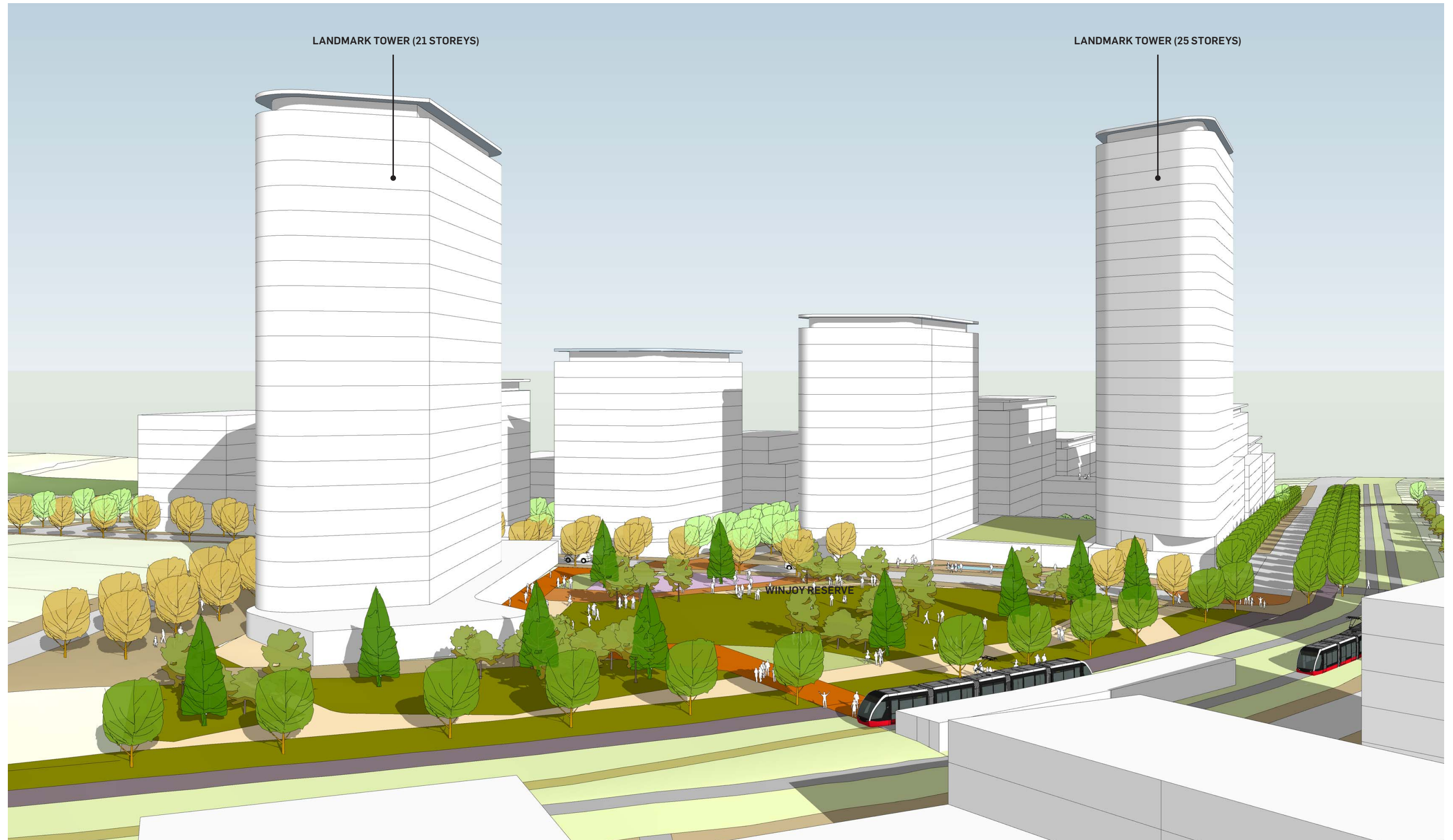


Figure 18 Dundas Station Precinct Winjoy Reserve

PRINCIPLE 2. **AN ACTIVATED PLACE FOR PEOPLE**

Winjoy Reserve, the new light rail stop and the local centre provides a natural focal point and meeting place for the community that leverages on the opportunity for activation that the light rail stop brings.

To support the growing needs of the community, the master plan incorporates strategies to enhance these existing amenities while providing new spaces for services and facilities that encourages community integration and participation.

KEY MOVES:

- Locate community facilities such as child care centre at the new neighbourhood core.
- Locate uses such as supermarket and retail at the ground level, activating key frontages orientated to the station.
- Maximise the opportunity for Winjoy Reserve to be part of the arrival precinct and meeting place for the community at Dundas Station Precinct.
- Orientate frontages and passive surveillance to the light rail stop and Winjoy Reserve to provide good address and activation.
- Ensure offering of social infrastructure and public amenities that is located conveniently within or close to the centre.

LEGEND

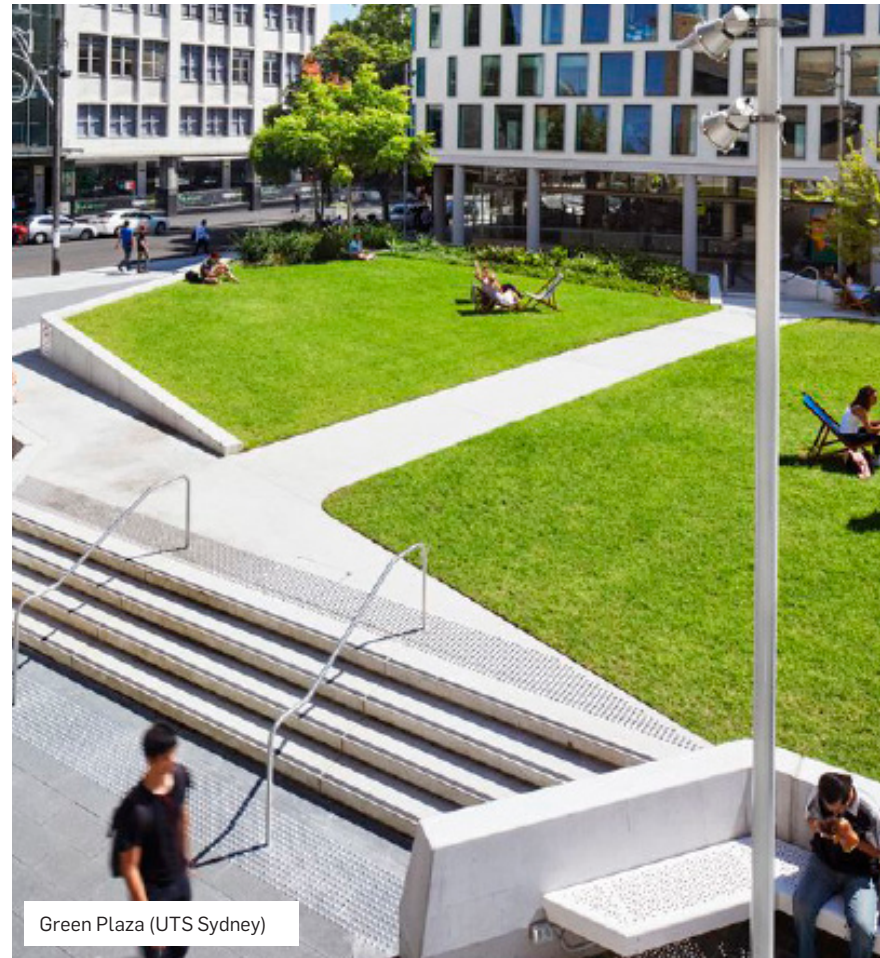
- Dundas Station Precinct
- Public Space Improvement
- Potential Service/ Amenities (Child Care, Bike Shop, Community Centre, etc.)
- Potential Supermarket
- Retail Activation
- Light Rail Line
- Light Rail Stop
- 400m & 800m radius
- Mixed Use Residential
- Public Recreational Areas



Figure 20 Dundas Station Precinct's Social Infrastructure and Public Amenities Plan

ACTIVATED PLACE FOR PEOPLE PRECEDENT

The following images illustrate examples of incorporating public infrastructure and amenities with the proposed land uses, to provide greater social benefits.



Green Plaza (UTS Sydney)



Community Centre at Ground Level (Telopea)



Supermarket Provision at Ground Level (Ripley Town Centre Ipswich)



Ground Floor Retail, F&B Offering (Newmarket Plaza, Randwick)



Community Library (Rouse Hill Town Centre)

PRINCIPLE 3. CONNECTIVITY IS KEY

The master plan establishes a clear road hierarchy and network within Dundas Station Precinct, by redefining existing roads and providing new road access to the regional road network.

The precinct will have greater access to surrounding social infrastructure, public amenities and open space areas through the establishment of an integrated active transport network.

KEY MOVES

- Activate Calder Road as the main street with ground level retail and activated frontages.
- Ensure good urban canopies along Dudley Street, Crowgey Street and Rippon Avenue to support walking and cycling as well as providing a greener character to Dundas.
- Provide new pedestrian connection from Winjoy Reserve through the light rail station and Kissing Point Road to connect the northern neighbourhoods.
- Provide a new local road parallel to the light rail line to the north to resolve access and servicing on lots fronting Kissing Point Road.
- Provide a new pedestrian connection from Rippon Avenue across the light rail corridor to Dundas to increase permeability through to Rydalmere.
- Provide a new street connection from Reserve Street to Rippon Avenue to improve east-west connectivity to Subiaco Creek.
- Emphasise park connections from the Calder Road to Subiaco Creek.
- Champion active transport modes by providing the required infrastructure and amenities such as urban canopies to create a comfortable user experience.

LEGEND

Dundas Station Precinct

Major Pedestrian Crossings

Kiss and Ride

Bus Stop

Light Rail Line

Light Rail Stop

Pedestrian Connection

Dedicated Pedestrian and Cycle Route

400m & 800m radius

Main Arterial Road

Collector Street

Local Street

Proposed New Road/ Access Street

Indicative Vehicular Access

Public Recreational Areas

Waterways

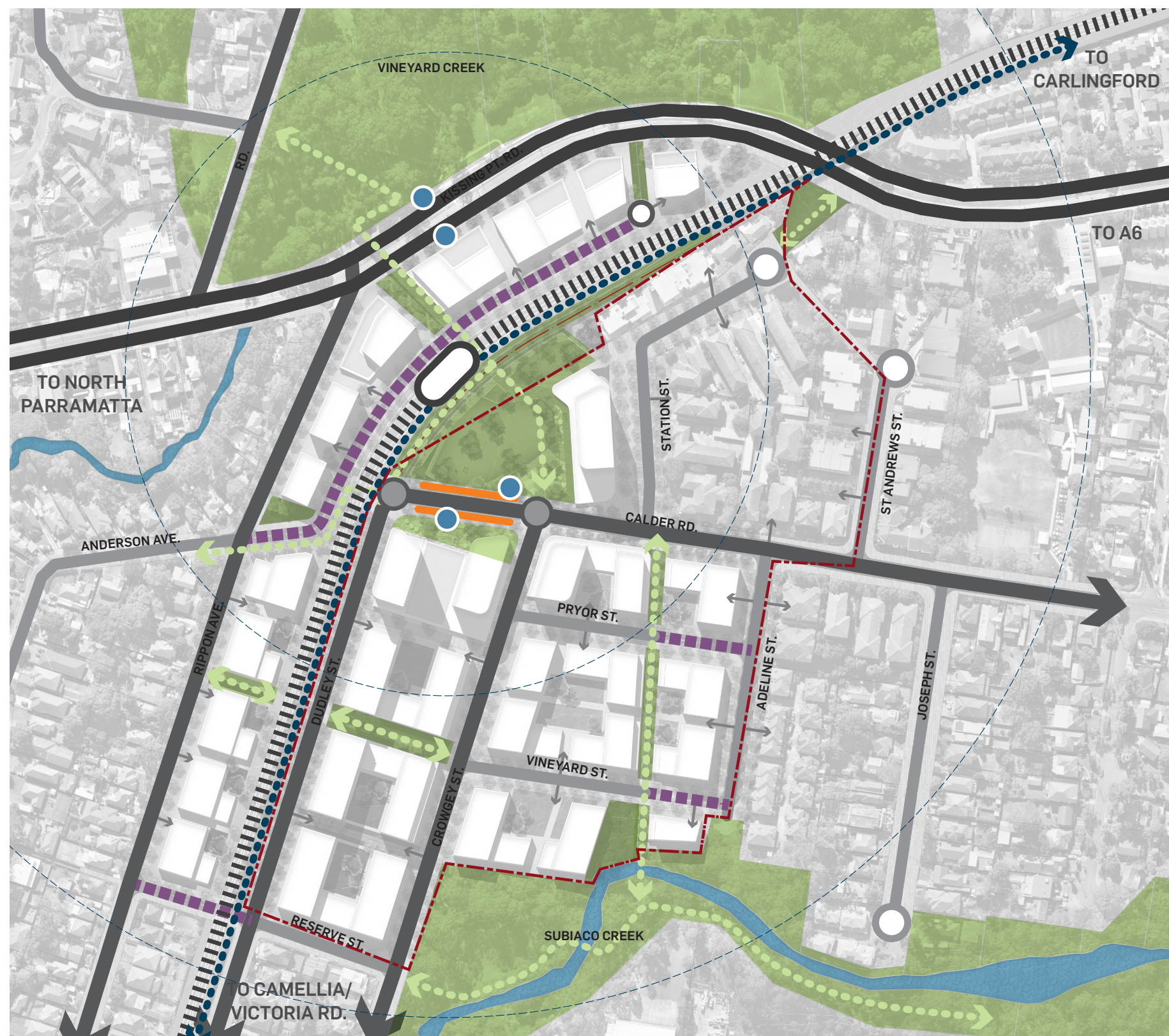


Figure 21 Dundas Station Precinct's Access and Movement Network



ACCESS AND MOVEMENT PRECEDENT

The following images illustrate examples of public transport corridors, connecting streets and laneways that have good passive surveillance and support both pedestrian and cycle movement.



Landscaped Pedestrian Pathway & Seating



Green Corridor Treatment along Light Rail Corridor



Designated Cycle Lane on Streets



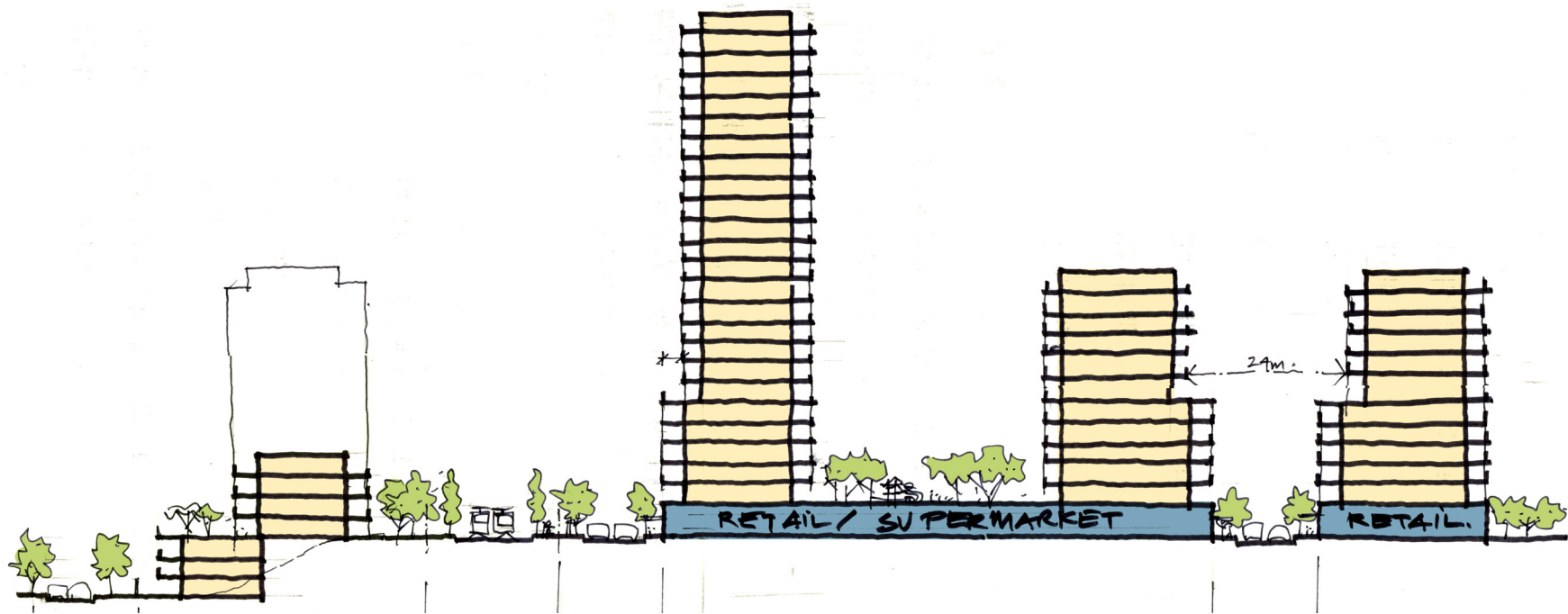
Shared Street Access (Rouse Hill Town Centre)



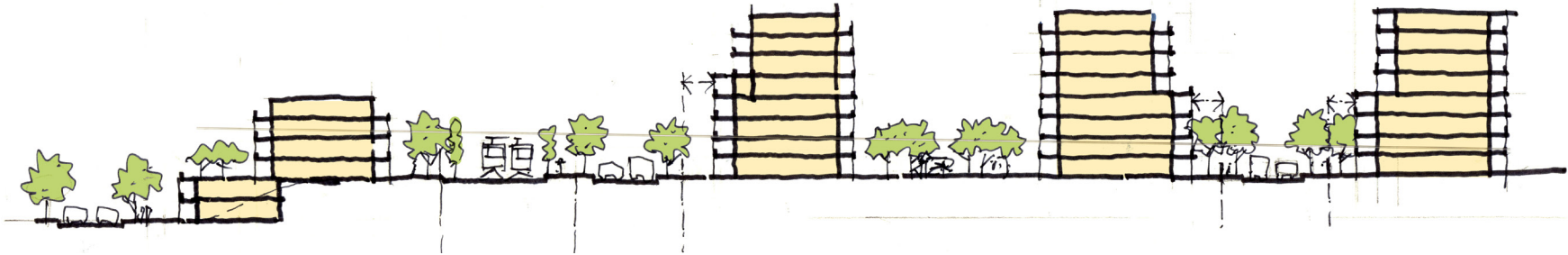
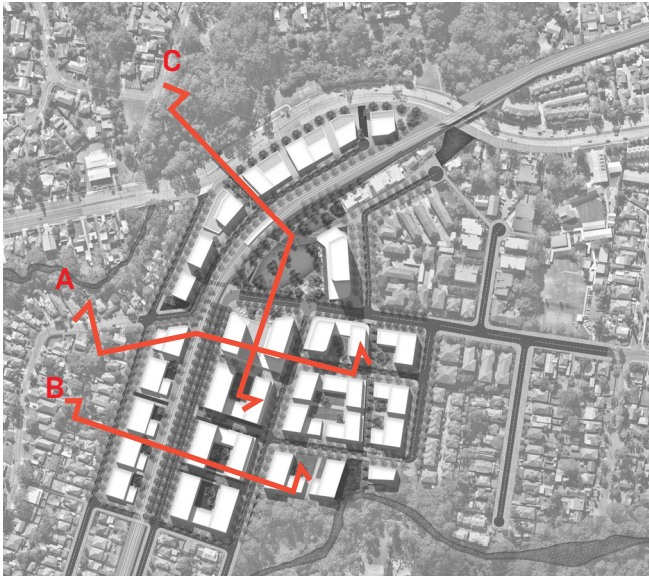
Parks, Open Spaces and Green Linkages

STREETS CONNECTIVITY AND ACTIVATION

The following sections taken from different part of the site illustrates the precinct section and relationship between uses, public realm and infrastructure such as future light rail and road.

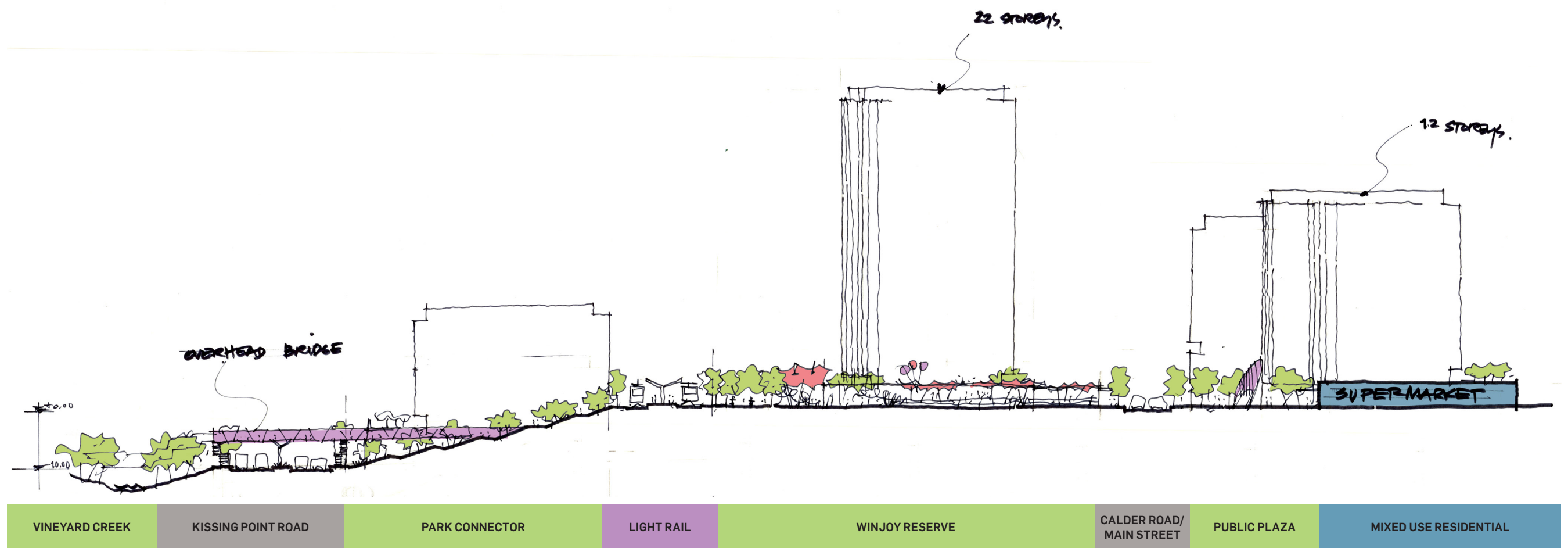


SECTION A



SECTION B





SECTION C



PRINCIPLE 4. CONNECT TO THE NATURAL NETWORKS

PUBLIC DOMAIN AND OPEN SPACE STRATEGY

Dundas Station Precinct will be inviting and engaging place with good public domain design and green nodes providing a variety of opportunities to interact with the natural setting.

The natural setting of the precinct will shape a public domain that is unique and characteristic of Dundas.

Vineyard Creek, Winjoy Reserve and Subiaco Creek provide the key opportunities to connect green spaces and waterways for the community living in Dundas. Streets within Dundas will consider these key connections in the future streetscape character to provide green infrastructure/canopies linking these places together.

Key north-south roads include Dudley Street, Crowgey Street, Station street (with a proposed new linear green connection from Calder Road to Vineyard Street) and Rippon Avenue to the east of the light rail line. East-west connections include Calder Road and Vineyard Street and a new pedestrian extension from Crowgey Street to Rippon Avenue.

The provision of connection between the natural amenities and public amenities is key in delivering an engaging, inviting and attractive public domain.

KEY MOVES:

- Activate Winjoy Reserve as a central open space for Dundas Station Precinct.
- Create north-facing plaza/ open space opposite to Winjoy Reserve as an open space extension and forefront for the new mixed use development.
- Activate Subiaco Creek by re-orientating the buildings towards the open space and provide better amenity to create a safe and active environment.
- Utilise the future light rail corridor as active transport corridor for bicycle.

LEGEND

- Dundas Station Precinct

Recreational Landmarks

Open Space Nodes

Major Pedestrian Crossings

Bus Stop

Light Rail Stop

Linear Green Connections

Dedicated Pedestrian and Cycle Route
- Calder Road - Main Street Character

Dudley St - Green Street Character

Crowgey St - Arrival Street Character

School/ Education

Public Recreational Areas

Community Gardens

Waterways

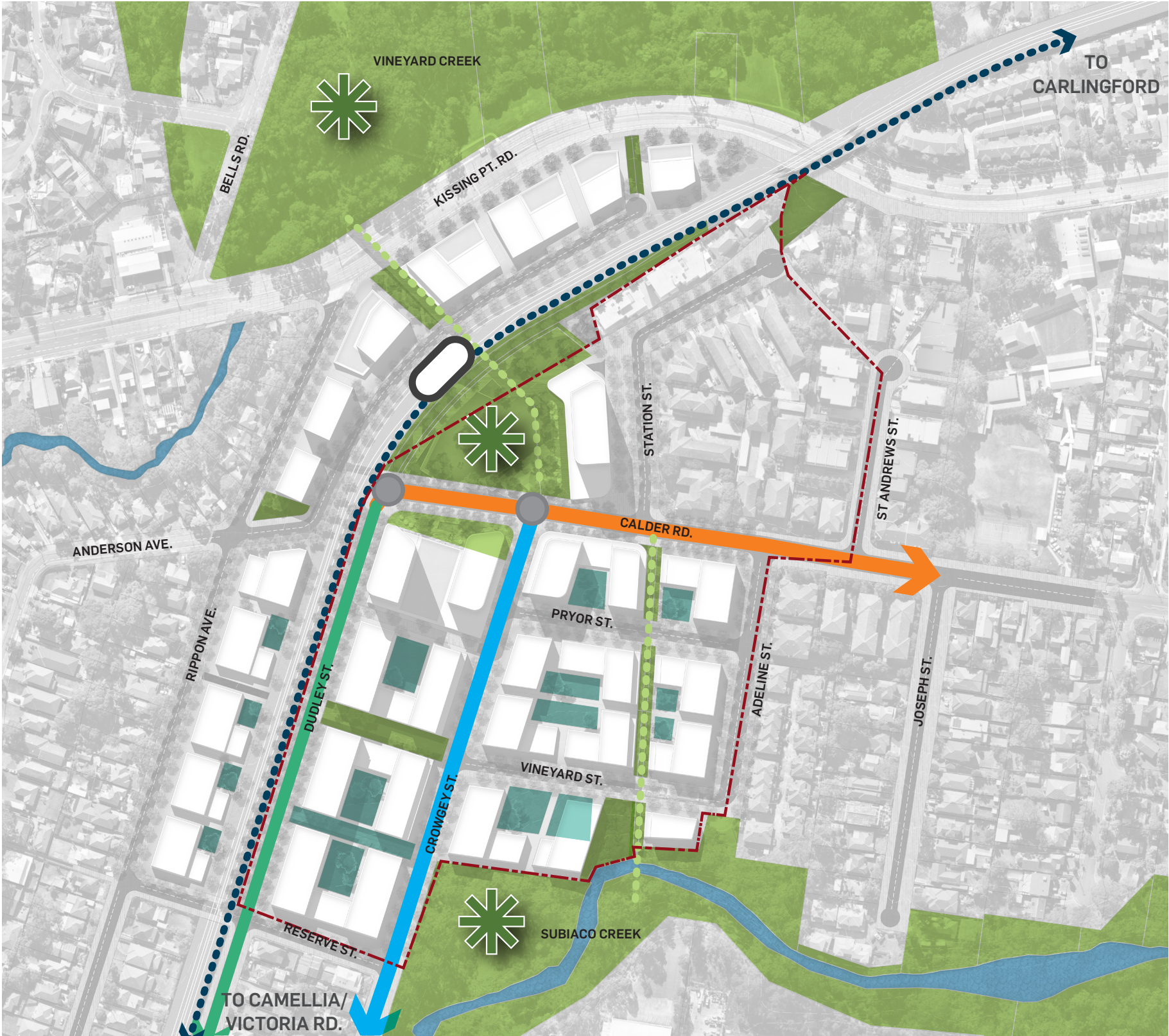
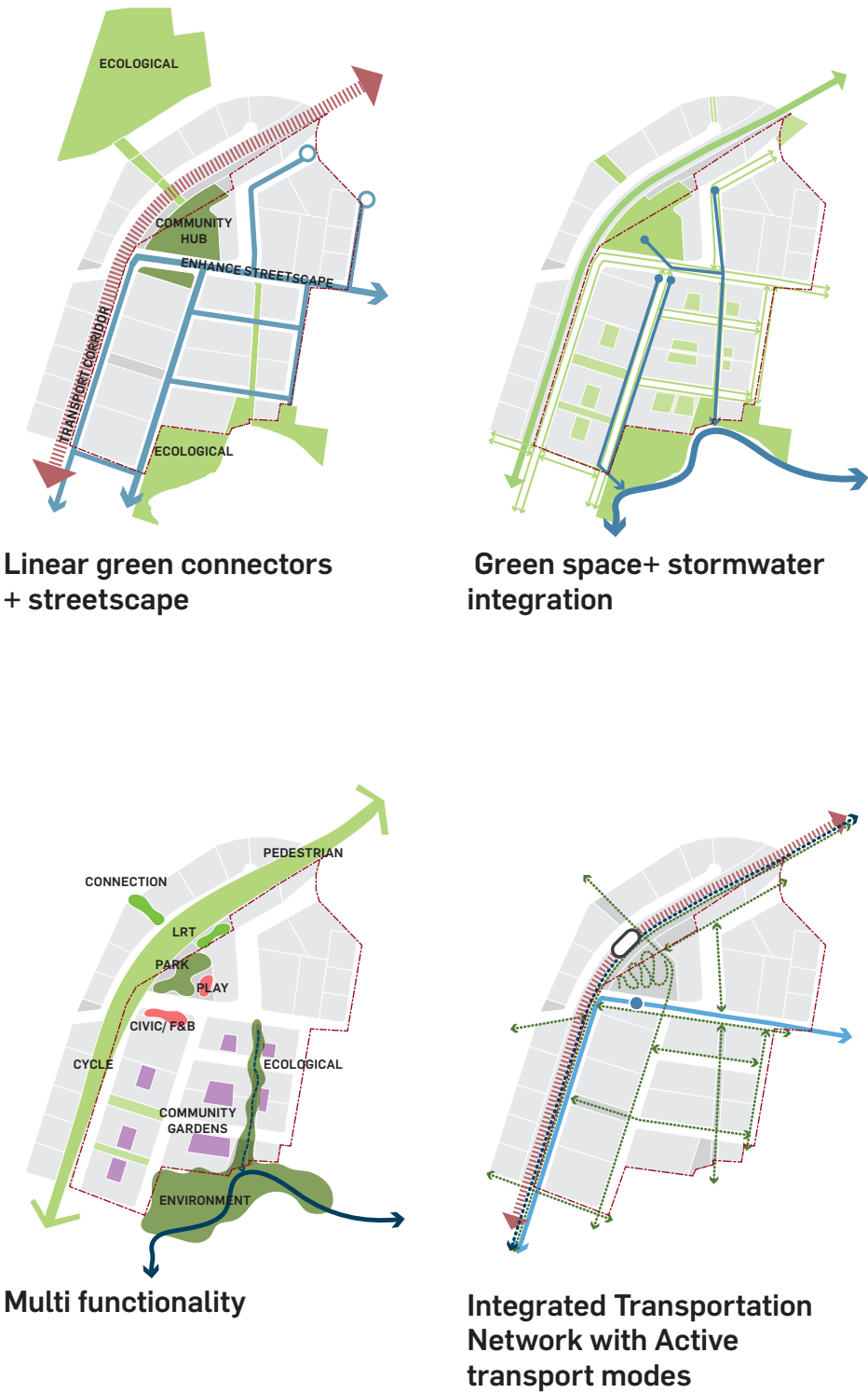


Figure 22 Dundas Station Precinct's Public Domain and Open Space Concept Plan

The following principles guides the public domain strategy within Dundas Station Precinct.



- LEGEND**
- ① New Light Rail Stop
 - ② Park
 - ③ Connection
 - ④ Main Pedestrian Path
 - ⑤ Winjoy Reserve Lawn
 - ⑥ Playground
 - ⑦ Cycle Lane
 - ⑧ Boulevard
 - ⑨ Pedestrian Plaza
 - ⑩ Main Pedestrian Intersection
 - ⑪ South Pedestrian Plaza
 - ⑫ Water Play
 - ⑬ Outdoor F&B Zone
 - ⑭ Steps
 - ⑮ Landmark Tower



Figure 23 Dundas Station Precinct Illustrative Plan

PRINCIPLE 5. **ACTIVATE AND INTENSIFY**

Dundas Station Precinct will serve a vibrant residential and community centred neighbourhood, with activation at the core of the local centre that offers a variety of retail choice, services and facilities to support Dundas' growth and future population within a walkable catchment.

The topographical setting of Dundas and the new light rail stop and active transport corridor within the Parramatta light rail line ensures that a variety densities for the precinct can occur.

Within a walkable catchment at the centre of the precinct, high densities are proposed which in closest proximity to the neighbourhood core, where the most potential where amenities and services can be located, including the light rail, retail services, facilities and green amenities.

LAND USE STRATEGY

The main neighbourhood core is easily identifiable and distinct with opportunities to accommodate a variety of retail at the arrival point and light rail stop for the Dundas Station Precinct.

The precinct proposes medium to high density residential housing across the precinct, with higher density centred around the light rail stop, reinvigorated local centre and Winjoy Reserve.

KEY MOVES:

- Redevelop the site east of Winjoy Reserve as a new mixed use residential with ground level retail fronting the park.
- Locate higher density with modulated heights surrounding Winjoy Reserve and lower density on the north side to minimise overshadowing.
- Locate medium to low rise residential with heights stepping down (12 to 6 storeys) towards Subiaco Creek.
- Locate 4-6 storeys residential buildings redevelopment on the west and north of the railway to better address the new precinct.

LEGEND

<div></div>	Dundas Station Precinct	<div></div>	Public Recreational Areas
<div></div>	Mixed Use	<div></div>	Waterways
<div></div>	Residential		



Figure 24 Dundas Station Precinct's Land Uses

STREETWALL STRATEGY

The streetwall strategy Dundas Station Precinct identify following items:

- 0m podium and tower setback within buildings facing Winjoy Reserve
- 0m podium with additional tower setback on the corner of Crowgey Street and Calder Road where building separation needs to be achieved;
- Standard residential setback with 6 storeys streetwall along Dudley Street and Crowgey Street
- 2 storeys residential streetwall along pedestrian connection to Subiaco Creek
- Standard residential setback on other street frontages

LEGEND

Dundas Station Precinct

0m podium and tower setback

0m podium setback, tower setback with minimum 24m distance between towers

Residential setback, 6 storeys streetwall + tower setback above

0m setback, 2 storeys residential streetwall + tower setback above

Residential setback

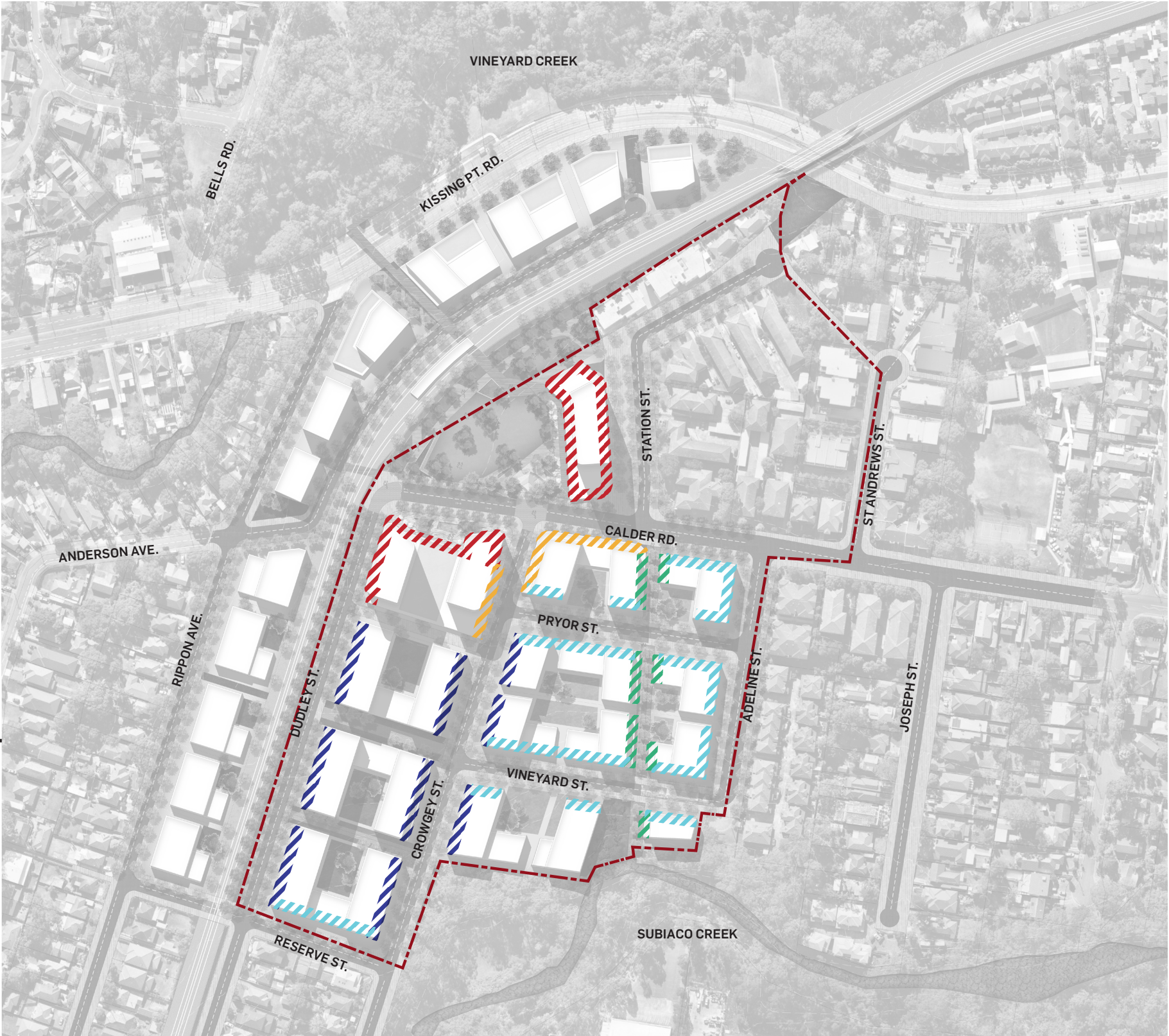


Figure 25 Dundas Station Precinct's setback Plan

BUILT FORM STRATEGY

The precinct proposes a mix of medium to high density housing with taller forms centred close to the light rail stop and neighbourhood core at the north transitioning to medium density to the south, approaching Subiaco Creek.

The built form strategy for Dundas Station Precinct presents a building envelope that responds to the surrounding context and future neighbourhood character while ensuring street activation across the precinct.

KEY MOVES:

- Orientate buildings to maximise views towards parks and natural environment.
- Provide breaks between buildings to ensure residential amenity and visual relief.
- Proposed building envelope minimises the shadow impact on public open spaces.

LEGEND

Dundas Station Precinct

*

Landmark Towers

Mixed Use Residential with Ground Floor Retail

Mid Rise Residential (7-12 storeys)

Mid-Low Rise Residential (5-6 Storeys)

Low Rise Residential (<4 Storeys)

Light Rail Stop

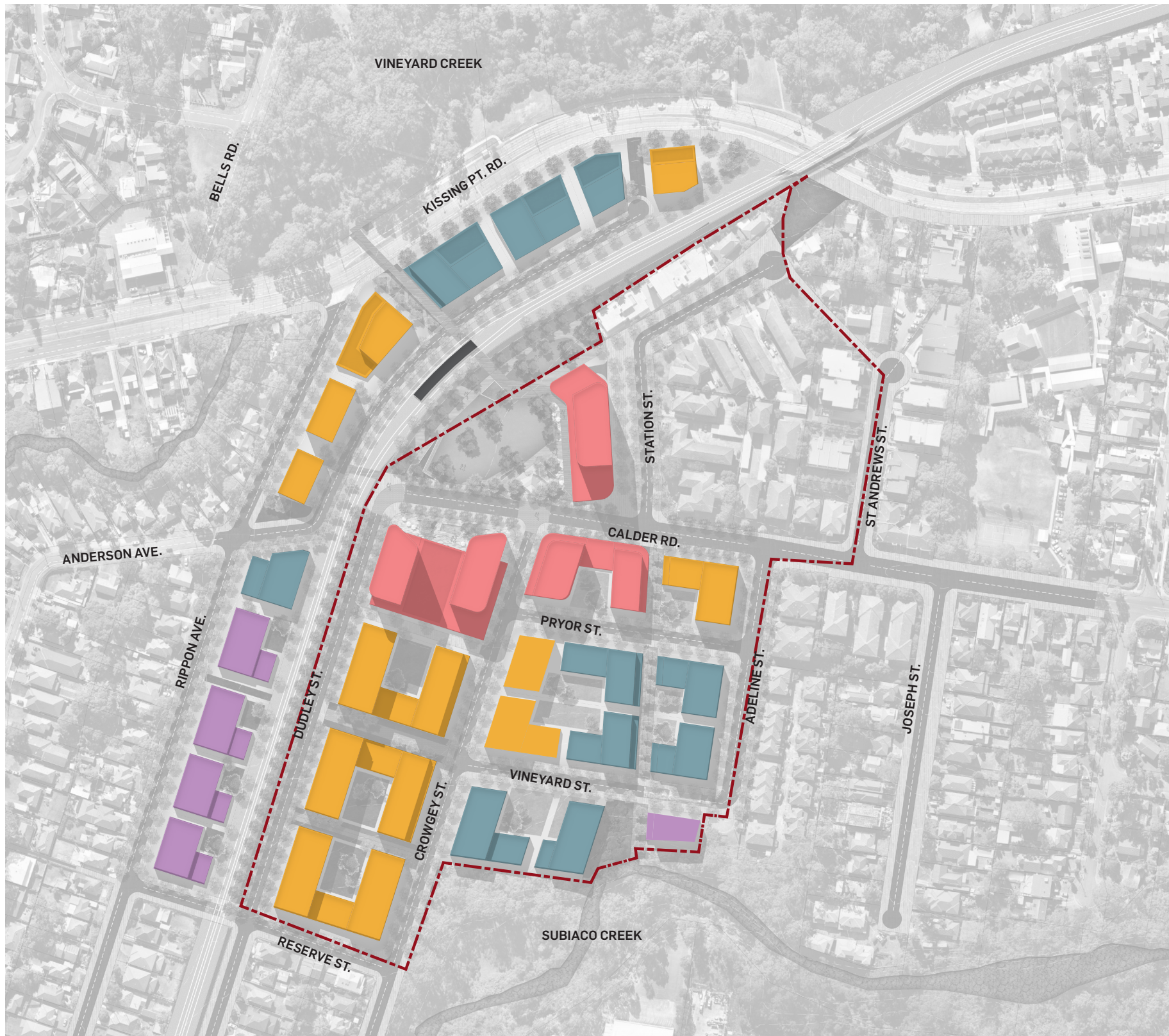


Figure 26 Dundas Station Precinct's Built Form Plan

APARTMENT DESIGN GUIDE

The Apartment Design Guide (ADG) aims to achieve better design and planning for residential apartment development by providing benchmarks for designing and assessing these developments. The ADG includes design guidance principles listed below, ultimately create high-quality housing outcomes as shown in the precedent images. The ADG together with the precedent projects shown are to inform and inspire the design response for Dundas Station Precinct.

- Apartment buildings of between 12 to 25 storeys located in areas close to the light rail stop.
- Dwelling outlooks are principally orientated fronting the street or rear landscape/open space to provide passive surveillance.
- Provide entrances, outlook and address to the street and communal open space to ensure passive surveillance.
- Ensure long building forms over 45m are well articulated, provide recesses, setbacks or variety of height to break up visual bulk , mass and provide visual interest.
- Ensure articulation towards the street frontage and communal open space to inform the streetscape and open space characters.
- Provide adequate building separation to ensure privacy and amenity.
- Ensure boundaries between public and private realms are well defined and celebrate building arrival/entrances with landscaping and visual definition
- Provide articulation on upper storeys and the roof levels to provide visual interest on the skyline.
- Ensure corners are designed to define edges and public domain.



Finlayson Street, Lane Cove (Sourced: Candelepapas Associates)



Courtyard Design (Source: PBD Architects)



Landmark Tower (Telopea, NSW)



Camberwell, VIC (Sourced: SJB Architect)

3.1 BUILT FORM TESTING

3.3.1 FSR AND HEIGHT DISTRIBUTION

The proposed building envelopes within Dundas Station Precinct have been tested against the amalgamation of lots to determine the distribution of FSR

The assumptions for the building envelope testing include:

- An efficiency rate of 70% for Residential Gross Building Area (GBE) to Gross Floor Area (GFA);
- An efficiency rate of 80% for Retail Gross Building Area (GBE) to Gross Floor Area (GFA);
- An efficiency rate of 90% for GFA to Net Saleable Area (NSA) for Residential Units
- A residential floor to floor height of 3.1m
- A retail floor to floor height of 4m
- An average unit size of 85m²

LEGEND

- Dundas Station Precinct
- Amalgamated Blocks
- ##

 Block Label
- #

 Maximum Building Heights

TESTED SITES	AMALGAMATED SITE AREA	GROSS FLOOR AREA (GFA)	GROUND LEVEL COMMERCIAL NET SALEABLE AREA (NSA)	FSR	UNITS
NEIGHBOURHOOD CORE					
RETAIL CORE	3,815.6	15,896.4	880.8	4.2	159
BLOCK A					
A1	11,055.2	46,493.1	2,996.6	4.2	457
A2	9,681.3	28,064	-	3.0	290
BLOCK B					
B1	3,286.0	12,182.3	1,855.2	3.7	109
B2	2,456.8	5,662.7	-	2.3	60
BLOCK C					
C1	3,643.1	7,968.8		2.2	84
C2	4,026.0	7,855.4		2.0	83
C3	3,591.0	7,901.6		2.2	84
BLOCK D					
D1	4,787.0	9,037.0		1.9	96
D2	1,206.0	1,243.2		1.0	13
BLOCK E					
E1	2,208.0	2,497.0		1.1	26
E2	2,237.0	2,175.6		1.0	23
E3	3,286.0	3,696.0		1.1	39
E4	3,805.0	4,019.4		1.1	43
E5	2,985.0	4,559.8		1.5	48
E6	1,798.0	5,443.2		3.0	58
E7	1,663.5	3,024.0		1.8	32
BLOCK F					
F1	1,760.0	2,490.6		1.4	26
F2	2,338.0	2,641.8		1.1	28
F3	1,753.5	2,552.2		1.5	27
F4	1,752.0	2,249.8		1.3	24
F5	1,787.0	2,266.6		1.3	24

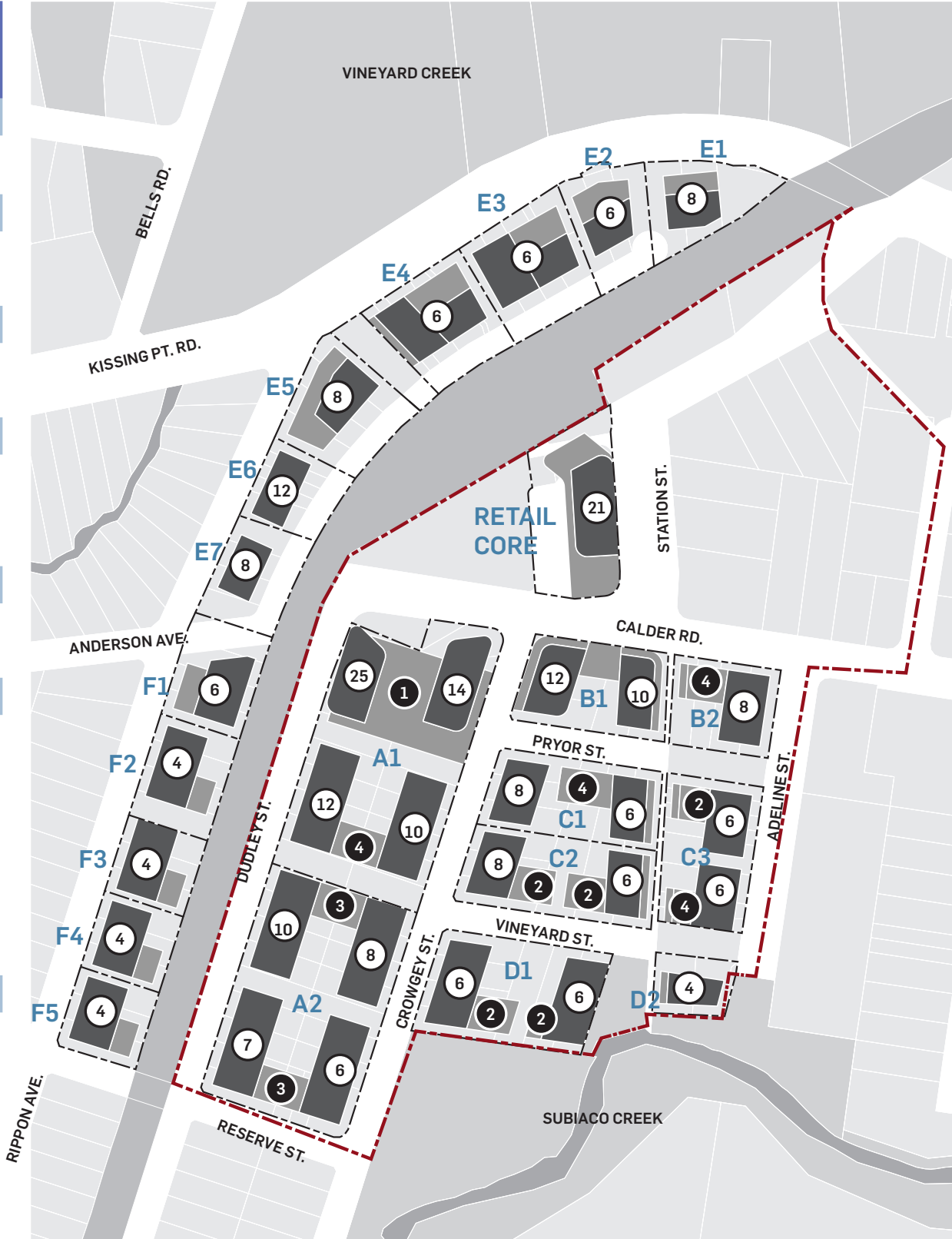


Figure 27 Dundas Station Precinct's Built Form Testing



Figure 28 Dundas Station Precinct Aerial View

3.2 SHADOW IMPACT STUDY

The following diagrams illustrate the shadow impact analysis taken from 9AM to 3PM in winter solstice through series of plan on the upper section and 'view from the sun' analysis on the lower section which demonstrate the built form façades received solar access for every hour.

The slender north-south orientation landmark towers with 25 and 22 storeys resulting a fast moving shadow throughout the day to minimise impact to the surroundings.

LEGEND

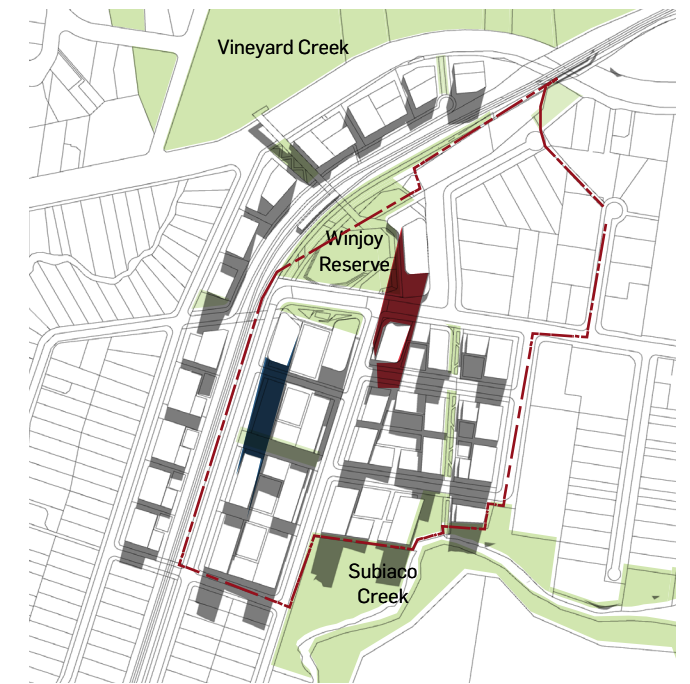
- Dundas Station Precinct
- 25 storeys landmark tower shadow cast
- 22 storeys landmark tower shadow cast
- Public Open Space



9AM



10AM



11AM





12PM



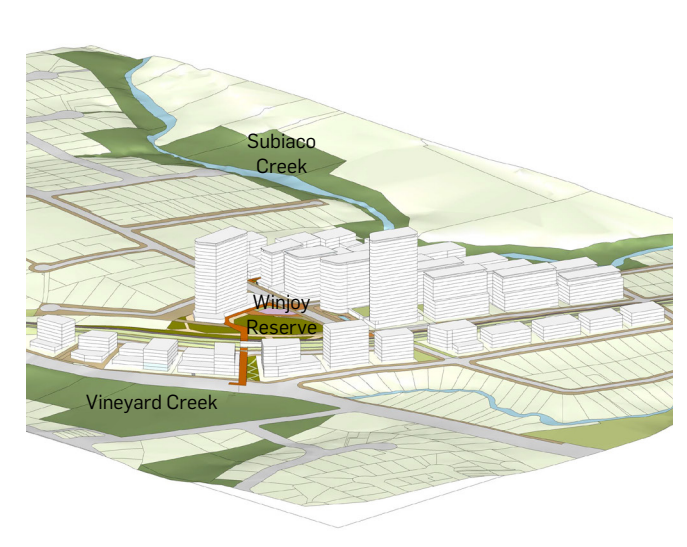
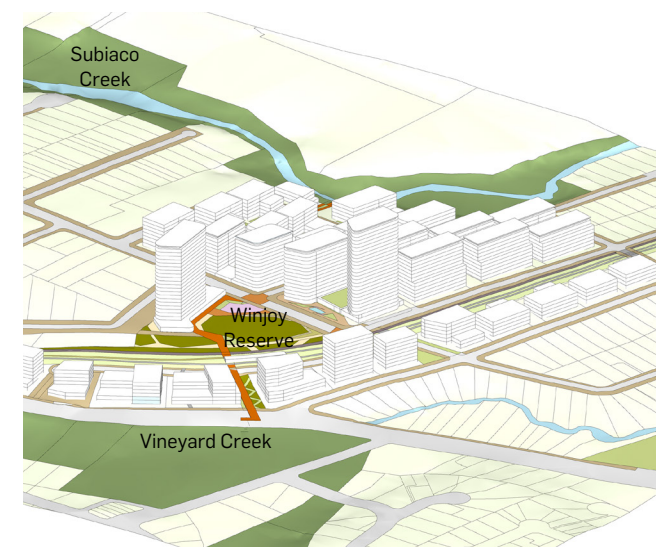
1PM



2PM



3PM





4.0 PROPOSED PLANNING CONTROLS

4.1 PROPOSED LAND ZONING

The proposed land zoning within Dundas Station Precinct is generated by following principles :

- Mixed use developments within the core area within 400m from the light rail stop.
- Higher density within the 400m Station walking catchment transitioning to medium to low density within 800m walking Catchment

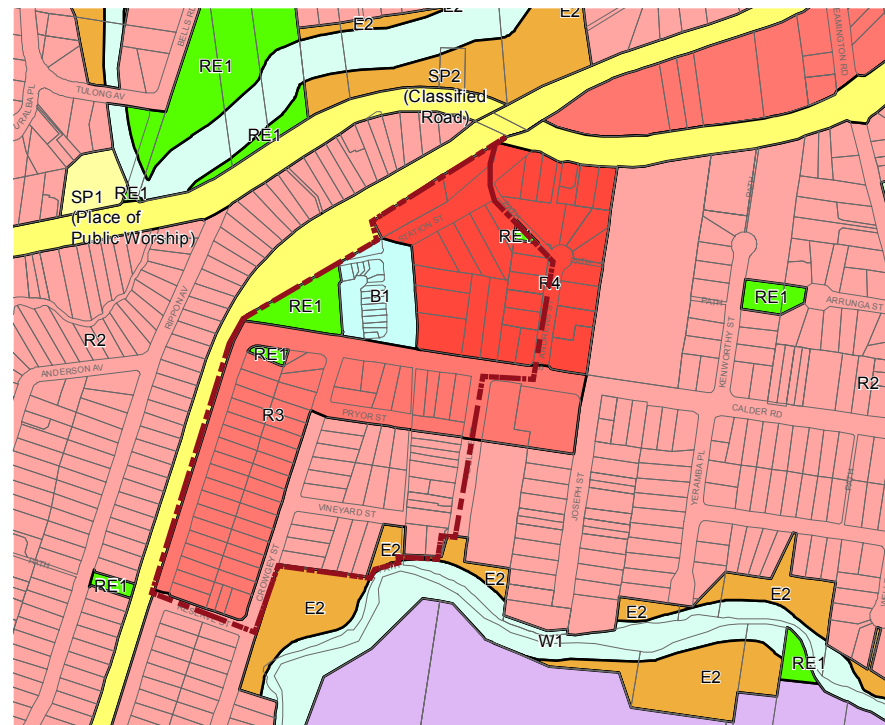


Figure 29 Current Land Zoning Map (PLEP 2011)

Zone

B1 Neighbourhood Centre	R2 Low Density Residential
B2 Local Centre	R3 Medium Density Residential
B3 Commercial Core	R4 High Density Residential
B4 Mixed Use	RE1 Public Recreation
B5 Business Development	RE2 Private Recreation
B6 Enterprise Corridor	SP1 Special Activities
E2 Environmental Conservation	SP2 Infrastructure
E3 Environmental Management	W1 Natural Waterways
IN1 General Industrial	W2 Recreational Waterways
IN2 Light Industrial	
IN3 Heavy Industrial	
R1 General Residential	



Figure 30 Proposed Land Zoning

4.2 PROPOSED FSR

The proposed building envelopes within Dundas Station Precinct have been tested against the amalgamation of lots to determine the distribution of FSR

The assumptions for the building envelope testing include:

- An efficiency rate of 70% for Residential Gross Building Area (GBE) to Gross Floor Area (GFA);
- An efficiency rate of 80% for Retail Gross Building Area (GBE) to Gross Floor Area (GFA);
- An efficiency rate of 90% for GFA to Net Saleable Area (NSA) for Residential Units
- An average unit size of 85m²

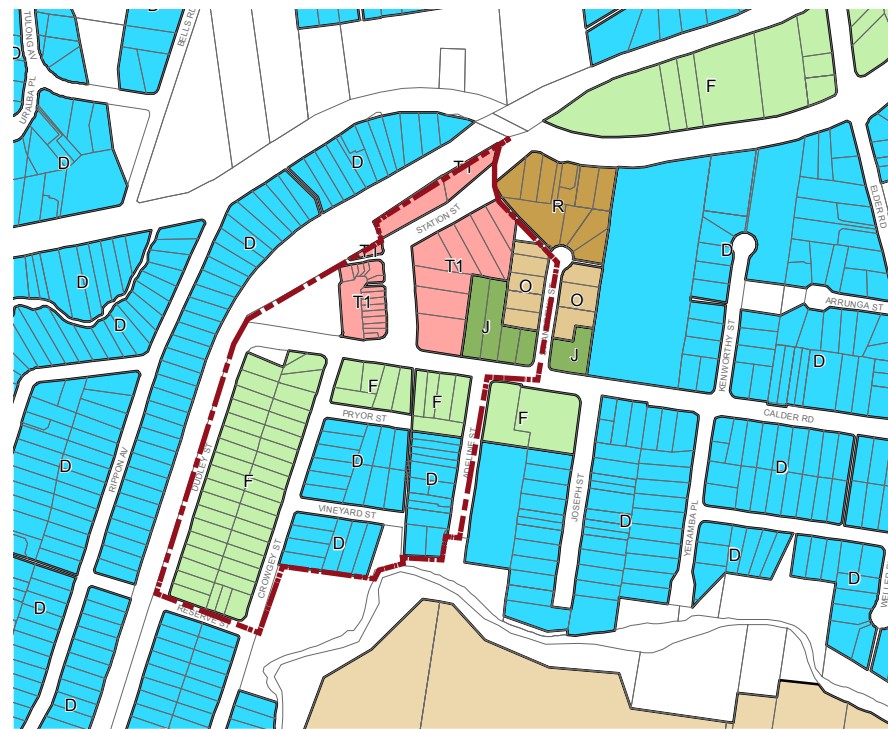


Figure 32 Current Floor Space Ratio Map (PLEP 2011)



Figure 31 Proposed Floor Space Ratio

1:3,000 @ A3
0 25 50 75 100 125 150

4.3 PROPOSED BUILDING HEIGHT

The proposed building height within Dundas Station Precinct has been studied in relation to the FSR and generated with following principles:

- Highest towers are located within Mixed Use zone
- A residential floor to floor height of 3.1m
- A retail floor to floor height of 4m



Figure 34 Current Height of Building Map (PLEP 2011)

Maximum Building Height (m)		
E	6	O1
G	7	O2
J1	9	P1
J2	9.2	P2
J3	9.5	Q1
K	10	Q2
L	11	R
M	12	S
N1	13	T1
N2	14	T2
U1	31	
U2	34	
V1	36	
V2	37	
W	40	
AA1	60	
AA2	66	
AA3	72	
AB1	80	
AB2	90	



Figure 33 Proposed Height of Building



AUSTRALIA

Brisbane
Gold Coast
Melbourne
Perth
Sydney

INTERNATIONAL

Hong Kong
Singapore

URBIS.COM.AU

CISTRI.COM

Outside Australia, Urbis trades as Cistri