

4.4 Community Infrastructure

Town Centre Main Street and Activity Nodes

A town centre spine, Rickard Road, and a series of interconnected urban nodes will provide the framework for a strong civic life to develop in the Centre. Activity nodes include:

- Civic Square
- Market Square (Including Aboriginal Heritage Interpretation)
- WV Scott Memorial Place (at Aquatic/Indoor Sports Centre)
- Leppington Public School Interpretive Place
- Scalabrini Creek Corridor
- Interactive Water Plaza
- Eastwood Road Interpretive Markers

Community/Civic Cluster

Consolidating the main community facilities, including Library and Community Centre, Youth Centre, Aquatic/Indoor Sports Centre and Arts/Performing Arts Centre, into a dedicated precinct within the town centre, that adjoins the public transport hub.

Aquatic and Indoor Sports Centre

The 4.8 hectare centre to be developed by Liverpool Council will serve a wider South West Growth Centre catchment of up to 100,000 people. The facility will provide an important social venue for the emerging community, with the potential to incorporate gymnasium, café and function room facilities for community use.

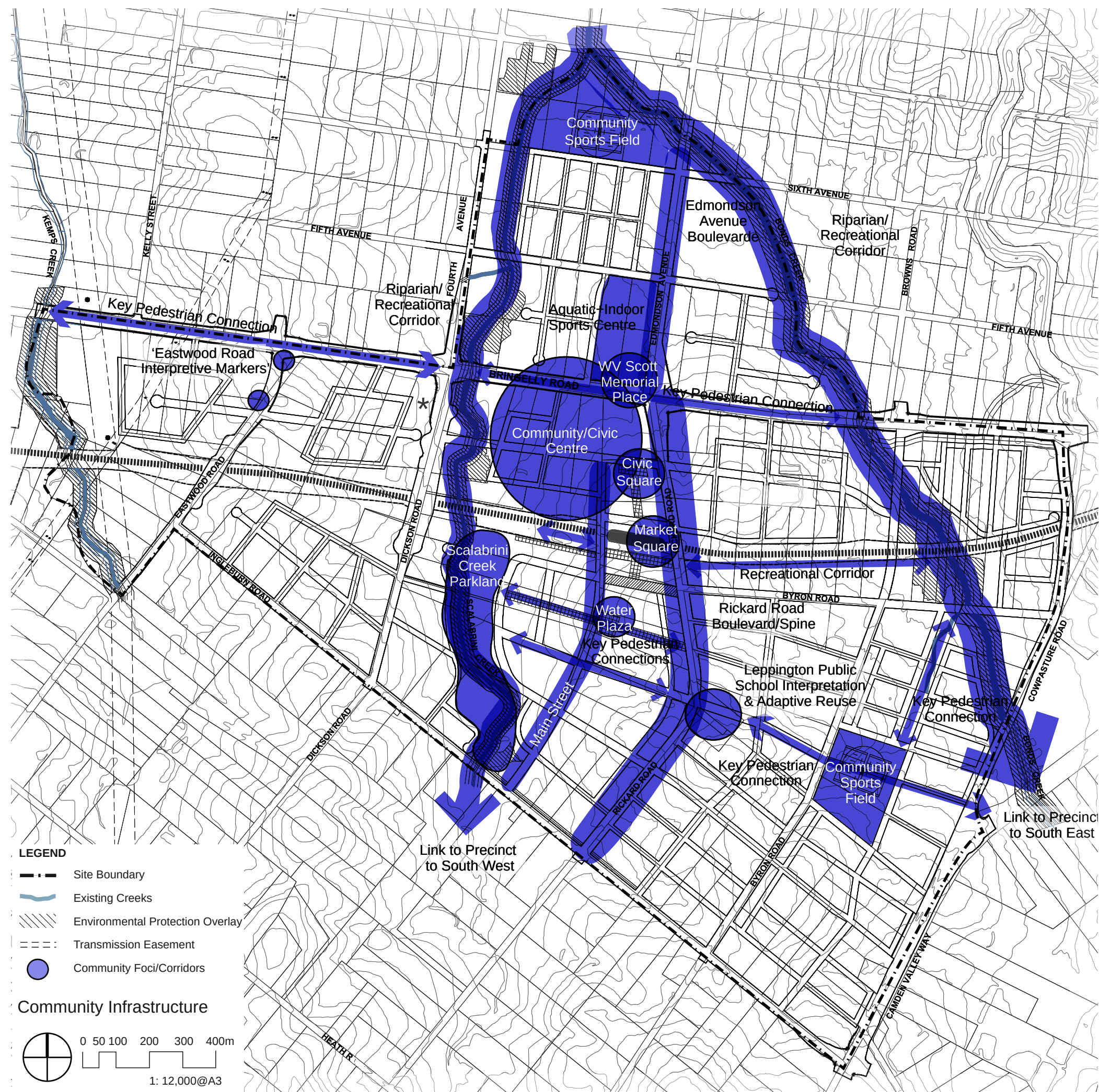
Community Sports Fields

A 5.5 hectare outdoor sports ground is located in the southeast of the town centre. It consolidates structured sporting pursuits, such as cricket, football, soccer and hard courts (eg tennis, basketball, netball) with other open space activities including children's playground and areas of informal landscaped parkland. It is envisaged that business people and residents would jointly make use of these green spaces, for lunchtime, after work and weekend sport and for socialising with provision of communal spaces with barbecues, shelters, tables and seating.

Community Open Space

The Scalabrini Creek and Bonds Creek green corridors provide many opportunities for recreational pursuits including a variety of interconnected landscaped parks with appropriate shelters, barbecue and seating areas.

A 4.5 hectare District Park is located in the north tip of the town centre, bounded by Sixth Avenue and the convergence of Scalabrini and Bonds Creeks. It will provide a passive recreational venue for the developing residential catchment and also sports fields.



4.5 Open Space/Green Network

The Open Space Plan illustrates the overall structure of the town centre open space system.

The masterplan includes:

- Provision of major green spines along Kems Creek, Scalabrini Creek and Bonds Creek. These frame and provide the primary green structure for the town centre and strengthen riparian vegetation, biodiversity and habitat.
- Provision of a main town square (Market Square) at the railway station. This space would be defined by buildings and provide a central meeting point for the overall town centre.
- Three smaller squares, WV Scott Memorial Place, Civic Square and Leppington Public School Interpretive Place have been identified along the primary visual axis of the Rickard Road spine. These spaces serve to reinforce the station precinct and mark the north and south gateways to the town centre core.
- A Rickard Road/Edmondson Avenue ridgeline transit boulevard will form the main urban spine for the town centre.
- Three east-west green ways connect the green valley corridors to the ridgeline Rickard Road transit boulevard. These green corridors generally occur in conjunction with proposed infrastructure, overland flow paths or internal streets and pathways and form landscaped pedestrian spines.
- A drawcard plaza potentially incorporating a playful interactive water feature, is proposed at the heart of the retail precinct and provides an opportunity for a privately owned and maintained green space.
- A green link extending east of the town centre linking the centre to the Western Sydney Parklands.
- The historic Leppington Public School buildings and curtilage could serve to provide a privately funded open space with potential for interpretation, café, visitor information and child minding functions utilising the historic building group and associated plantings.



4.6 Public Transport and Cycle Network

Transport Objectives

The following key objectives have been established:

- Provide for an interconnected town centre.
- Facilitate the proposed transit boulevard along Rickard Road/Edmondson Avenue.
- Provide for through traffic to bypass the core of the town centre.
- Provide for flexibility in traffic and transport management.

SWRL - Leppington Station Design

The Leppington Station design (scheduled for completion in 2016) consists of four tracks and two platforms located in cut and incorporates modal interchanges and commuter parking areas to the north and south of the station linked with a public concourse. Commuter parking will initially total 800 car spaces and be on grade, with future expansion capped at 1000 spaces.

Rickard Road and the station concourse align with the existing ground level, and bridge over the open cut railway alignment below – lifts and stairs will provide access between the concourse and platform levels. The station building provides weather protection for the public concourse, ticketing and offices.

On opening of the SWRL in 2016, bus interchange facilities will be provided to the north and south of the station, along with provision for commuter parking, taxi drop-off/pick-up and kiss-and-ride.

There is potential in the long term to pursue an integrated mixed use development model incorporating development air rights above and ‘sleeving’ of rail operations – similar to Bondi Junction.

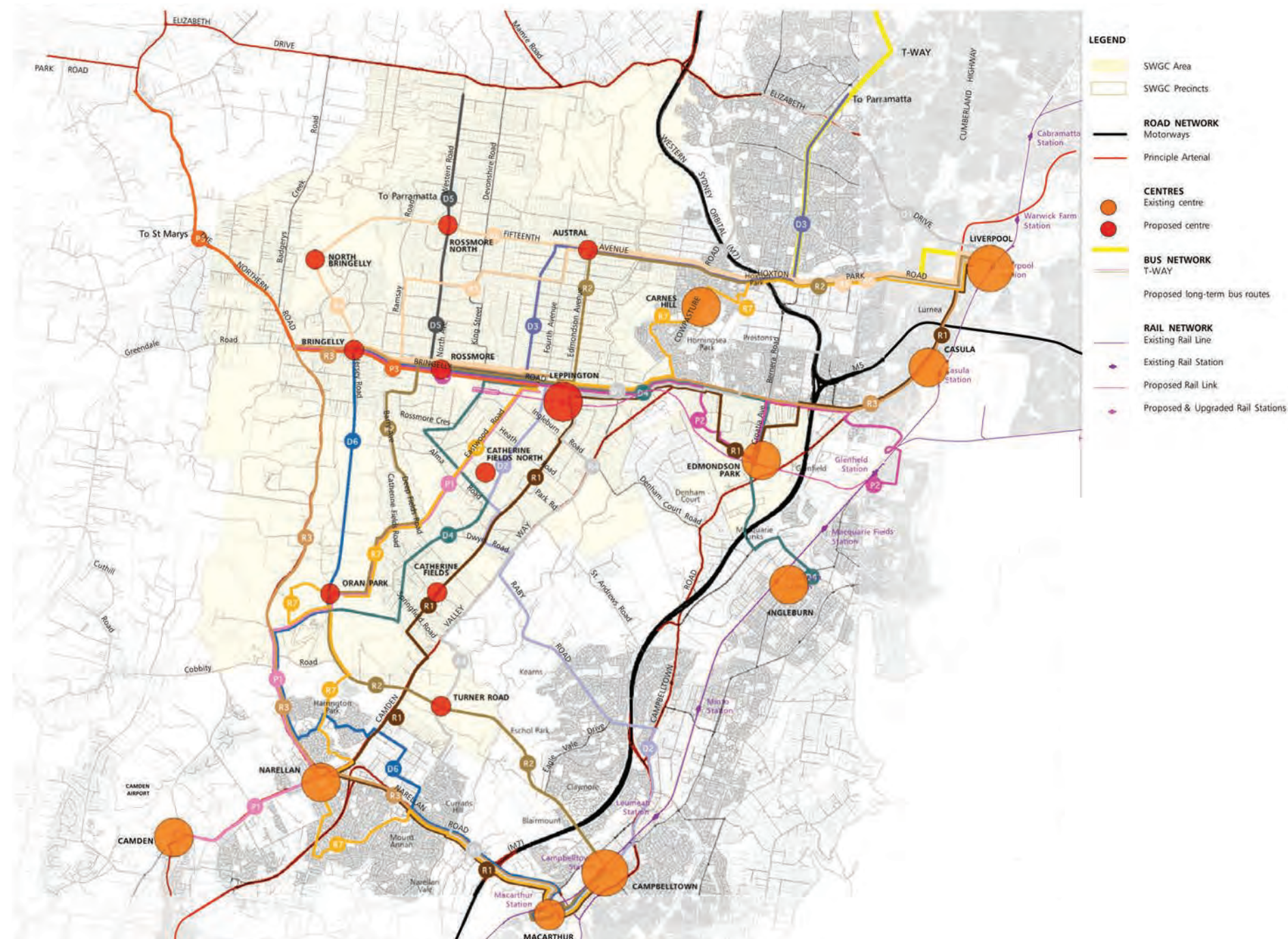
Future Modal Interchange

The Structure Plan retains the potential for the streets constructed to the north and south of the station in 2016, to be integrated with the future town centre street network. General traffic access to one or both of these streets may be limited in the future, with one way, left-in left-out, bus only, shared zone or special event closure arrangements introduced to improve pedestrian safety and amenity and to expand the effective plaza space on special event or market days.

It is envisaged that as demand grows bus interchange facilities will be consolidated, within short walking distance, on the south side of the station. There is the potential for air rights over such a facility to be developed in the future.

Future Commuter Parking

The Indicative Layout Plan looks to the future consolidation of commuter parking in multi-level parking structures within convenient walking distance of the station. The proposed location are to the southeast and northwest of the station, near to, but set back from Rickard Road and adjoining the SWRL corridor. It is envisaged that the facility would be screened from Rickard Road by frontage development, from the railway corridor by suitable landscape treatments, and would incorporate active ground floor uses on its street frontages.



Existing and Proposed Public Transport

Source: RTA Growth Centres Road Framework, RTA.
(South West Growth Centre Road Network Strategy, SMM/RTA)
Original Source: Maunsell - South West Bus Servicing Plan Feb 2009

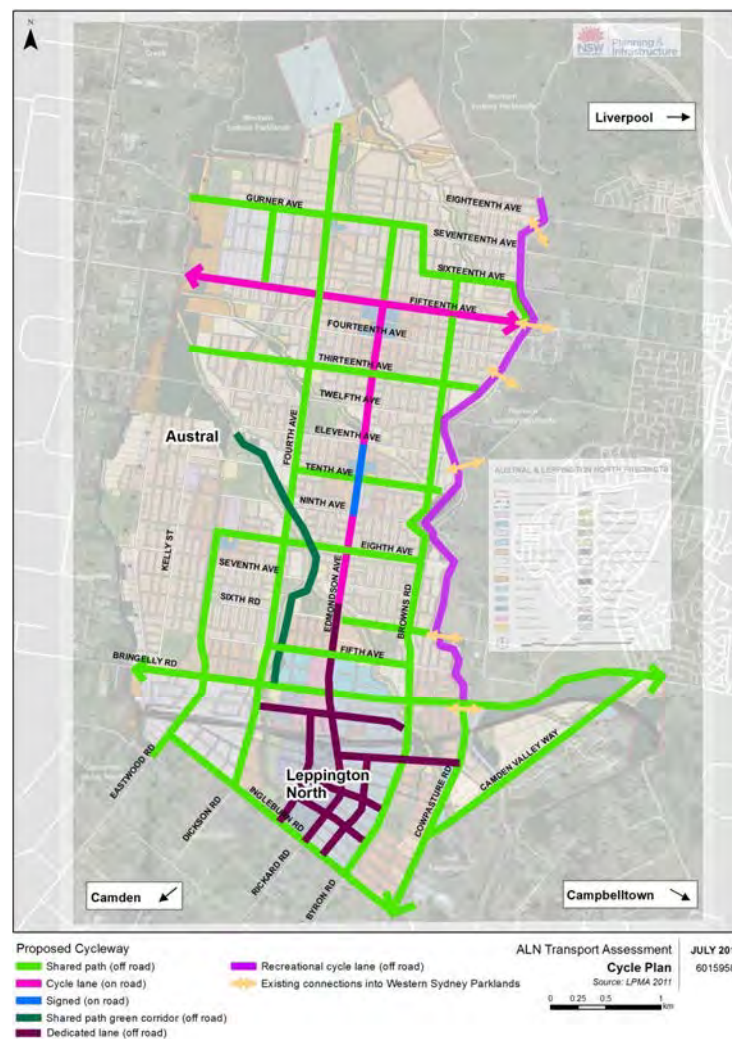
Bus Services

The South West Bus Servicing Plan (Maunsell, 2009) identifies Leppington Town Centre as an important hub within the SWGC network. Leppington Station will be the terminal station on the SWRL and will therefore perform an important interchange function, linking the rail system with the public bus network, and servicing the large SWGC catchment to the north, west and south of the town centre.

The Structure Plan provides convenient direct access routes along town centre main roads and transit boulevards and straightforward drop-off, pick-up loops at the station to maximise the efficiency of the bus service. Bus routes generally link main centres and seek to maximise residential catchment from the bus stops along their routes.

Proposed Future Cycle Plan

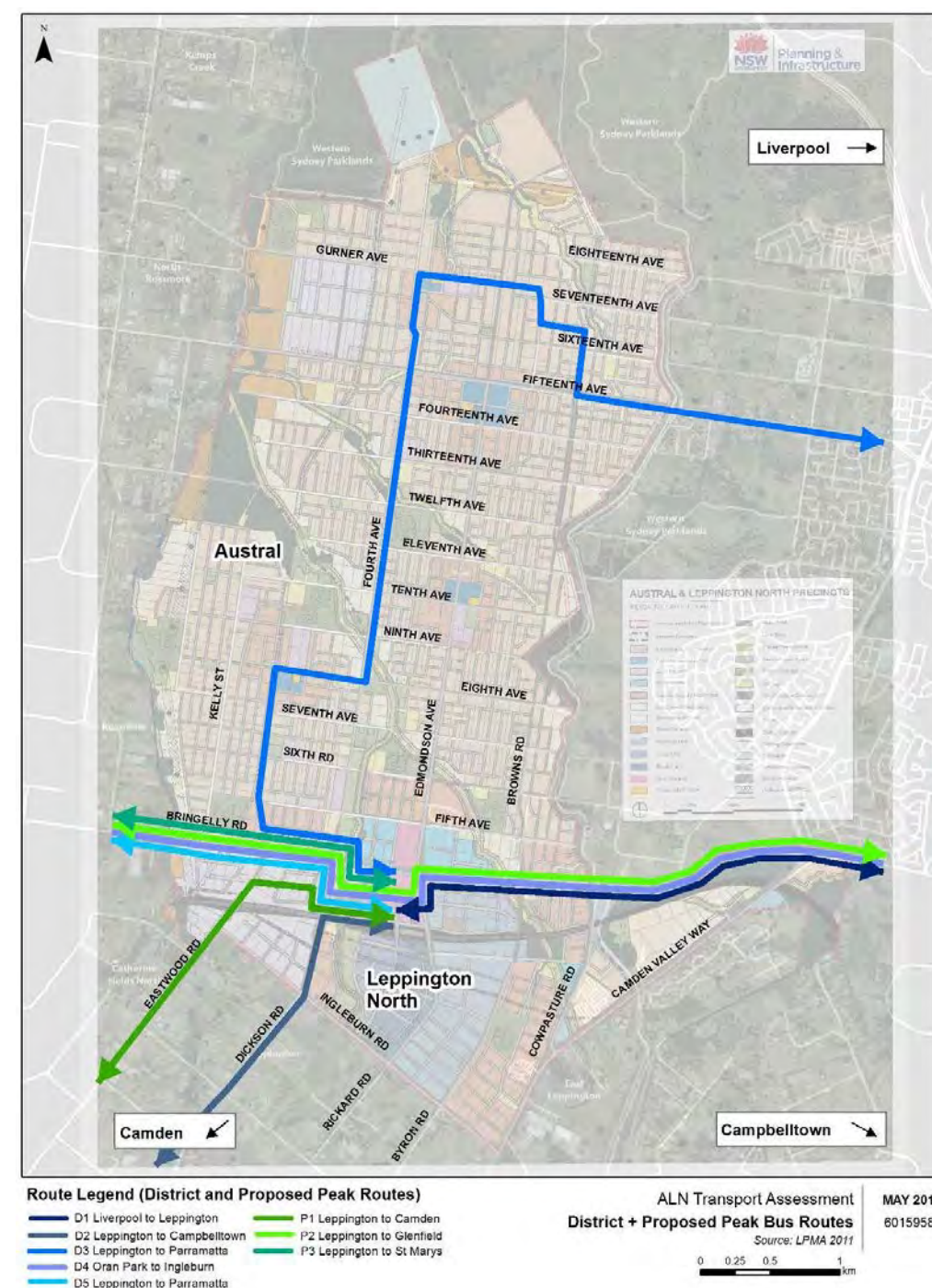
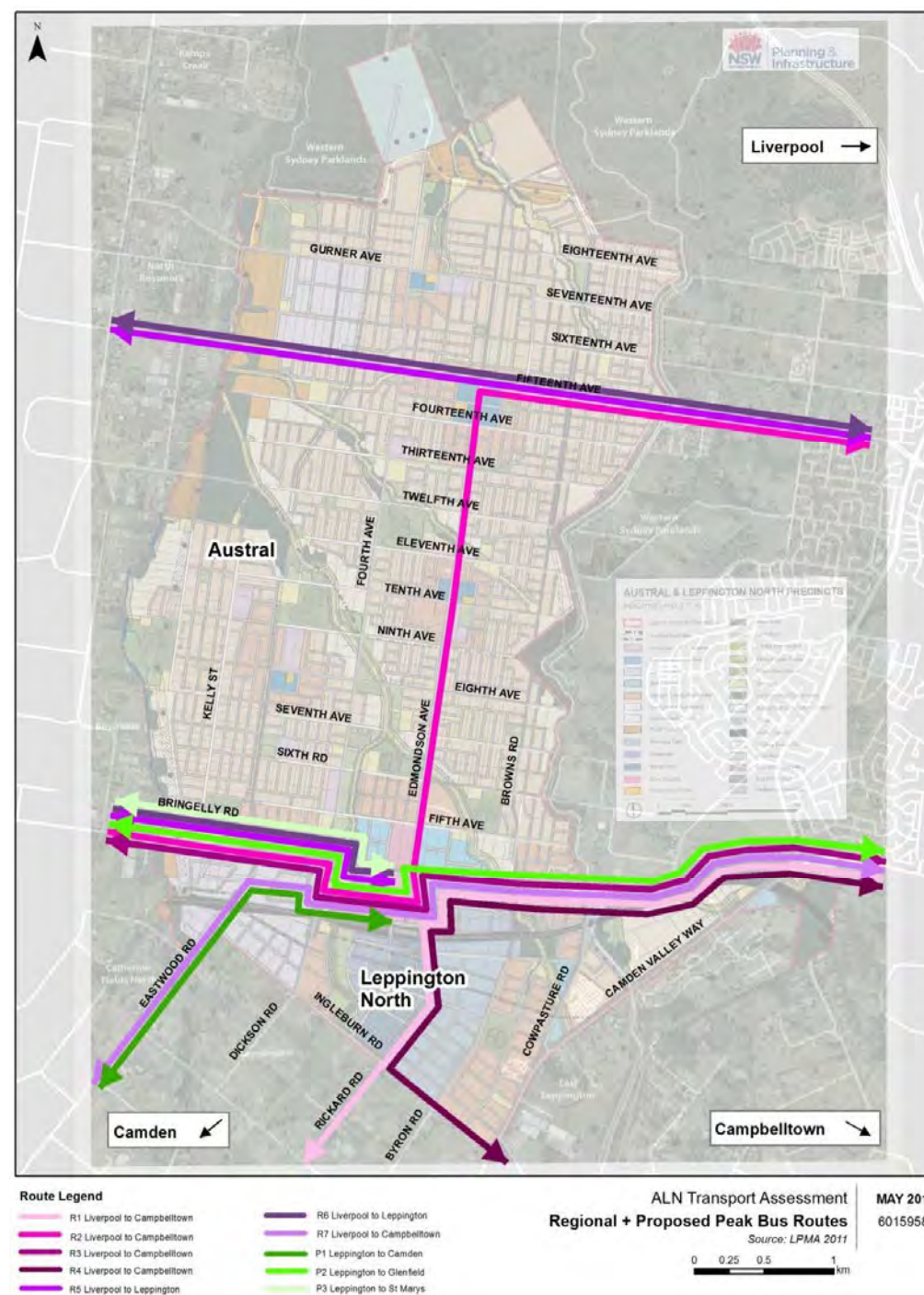
All new streets will accommodate in their cross section provision for dedicated on-road or off-road cycle lanes.



Proposed Future Cycle Network

Source: Austral and Leppington North (ALN) Precincts Transport Assessment, AECOM

Leppington Town Centre Masterplan | Final Report



4.7 Circulation Layout and Hierarchy

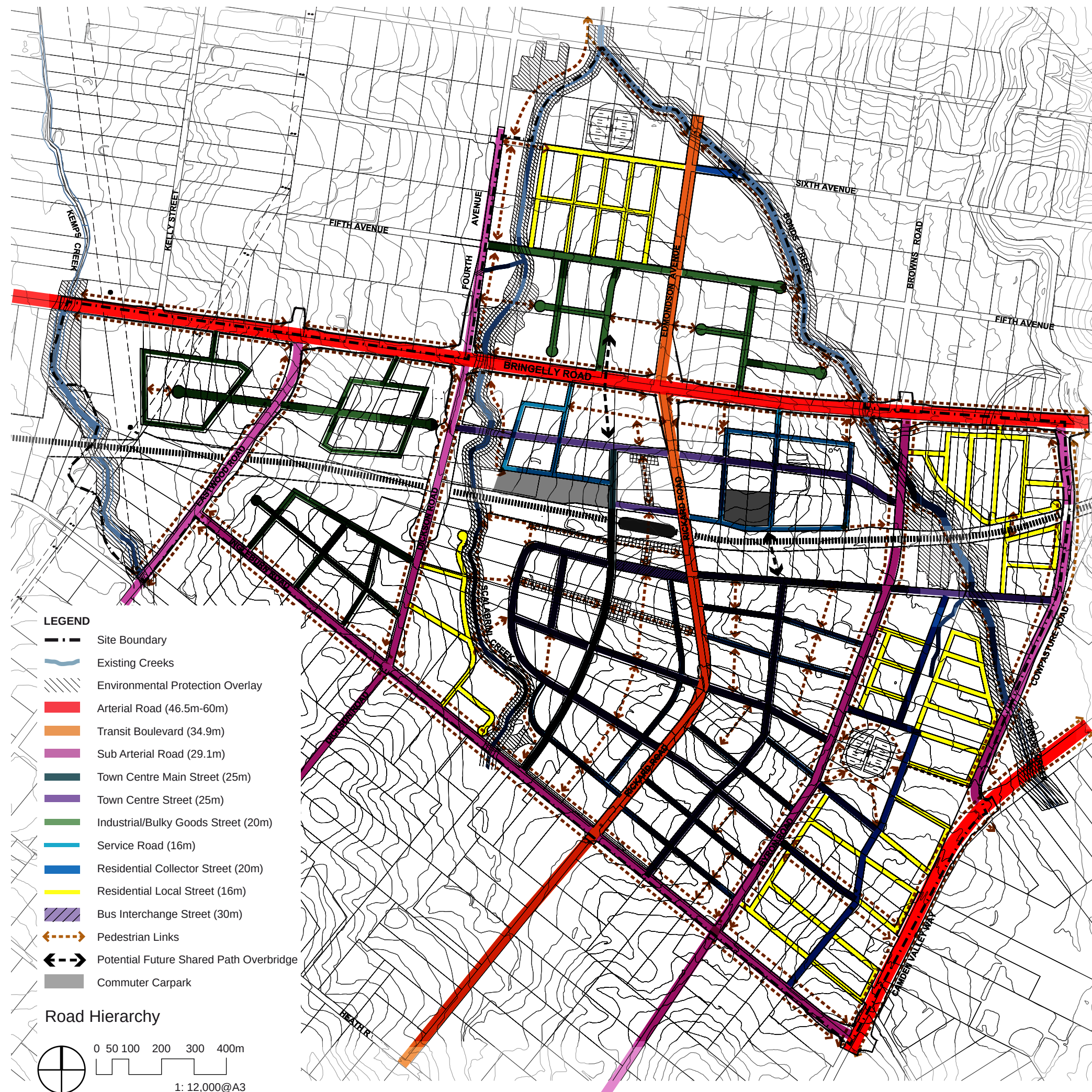
The circulation layout and proposed road hierarchy has been developed in consultation with the RMS and Liverpool and Camden Councils. It illustrates a strategy to provide for the gradual roll-out of infrastructure and to provide flexibility in land consolidation and implementation.

It is noted that the funding for flood plain crossings may be affected by Section 94 funding limits and efforts have been made to minimise the number of creek crossings that require major bridging structures.

Street Hierarchy

The key aspects of the town centre access hierarchy include:

- A main road network comprised of Principle Arterial, Transit Boulevard and Sub-Arterial roads provide a simple and robust primary access framework for the town centre.
- Bringelly Road will be upgraded and signalised intersections introduced at the minimal spacing allowed by the RMS - to maximise north-south connectivity of the town centre to adjoining precinct centres and neighbourhoods.
- In residential areas along Primary Arterial road frontages (Bringelly Road and Camden Valley Way) parallel setback service roads and frontage streets ensure access and functionality is maintained and unattractive residential rear fences or noise walls are avoided.
- Mid-block left-in, left-out access is provided to Bringelly Road to provide direct and legible access to the adjoining precincts.
- The required RMS intersection setback from the SWRL overbridge approach ramps at Eastwood Road and Dickson Road are addressed.
- Retail/commercial, bulky goods retail, light industrial, office park and medium-high residential land uses are accommodated in blocks of suitable dimension, in accordance with GCDC guidelines.
- Town centre streets utilise existing road or property boundary alignments wherever possible to facilitate implementation.
- Proposed major new roads include an extension of Byron Road north to intersect with Bringelly Road, aligning with the existing Browns Road to the north, and an extension of Eastwood Road north of Bringelly Road.
- A north-south oriented street, crossing the SWRL at the west end of the Leppington Station platforms will act as the 'main street', and will ensure effective connectivity and accessibility between the Retail and Civic quarters of the town centre. This connection will also assist in providing efficient bus circulation/interchange.
- In the long term, if warranted, there is the opportunity to provide a shared path overbridge over Bringelly Road linking Main Street and the Civic Precinct to the Aquatic/Indoors Sports Centre and to residential neighbourhoods, north of the Town Centre.
- A potential (but currently unfunded) north-south oriented cyclist and pedestrian overbridge, crossing the SWRL mid-block between Rickard Road and Byron Road, would provide an important link within the Office/Business Park precinct of the town centre, improving overall access and permeability.



Parking

800 commuter parking spaces will be constructed in 2016 by the TfNSW, in at-grade carparks located immediately to the north and south of Leppington Station. In the medium term it is envisaged that these will be replaced with dedicated 1,000 space capacity commuter carparking facilities in multi-level structures located within walking distance of the station. This will free up the former carparking areas for new town centre open spaces and for development parcels.

On-street parking will be provided throughout the town centre network of public streets, with the only exception being along Bringelly Road and Camden Valley Way due to their Primary Arterial function.

In the Retail/Commercial Core, on-site parking will be provided initially at grade but in the longer term will be located underground or on roof tops. In the Light Industrial and Bulky Goods precincts parking will be provided at-grade, but will always be located in the middle of the blocks, and thereby screened from main streets and open spaces.

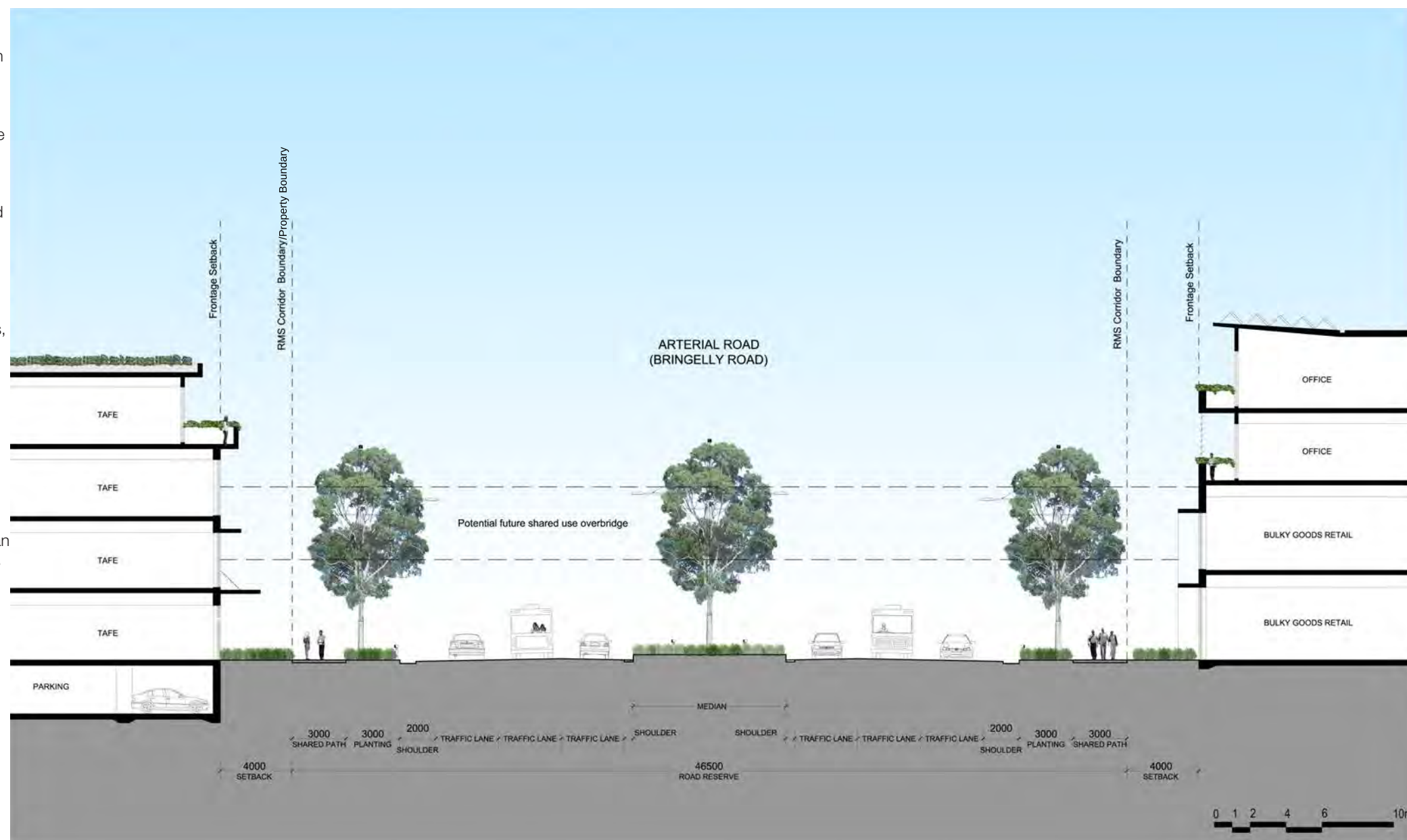
Parking in the Office/Business Park precinct will be permitted underground or on roof tops, or if significant soil conditions or cost implications prevent it, would be restricted to the middle of the block. In the short term parking would be provided at-grade.

4.8 Town Centre Cross Sections

The town centre Road Hierarchy comprises eight street types, each addressing a particular order of access and set of requirements for urban functionality. The six main town centre street types are described below.

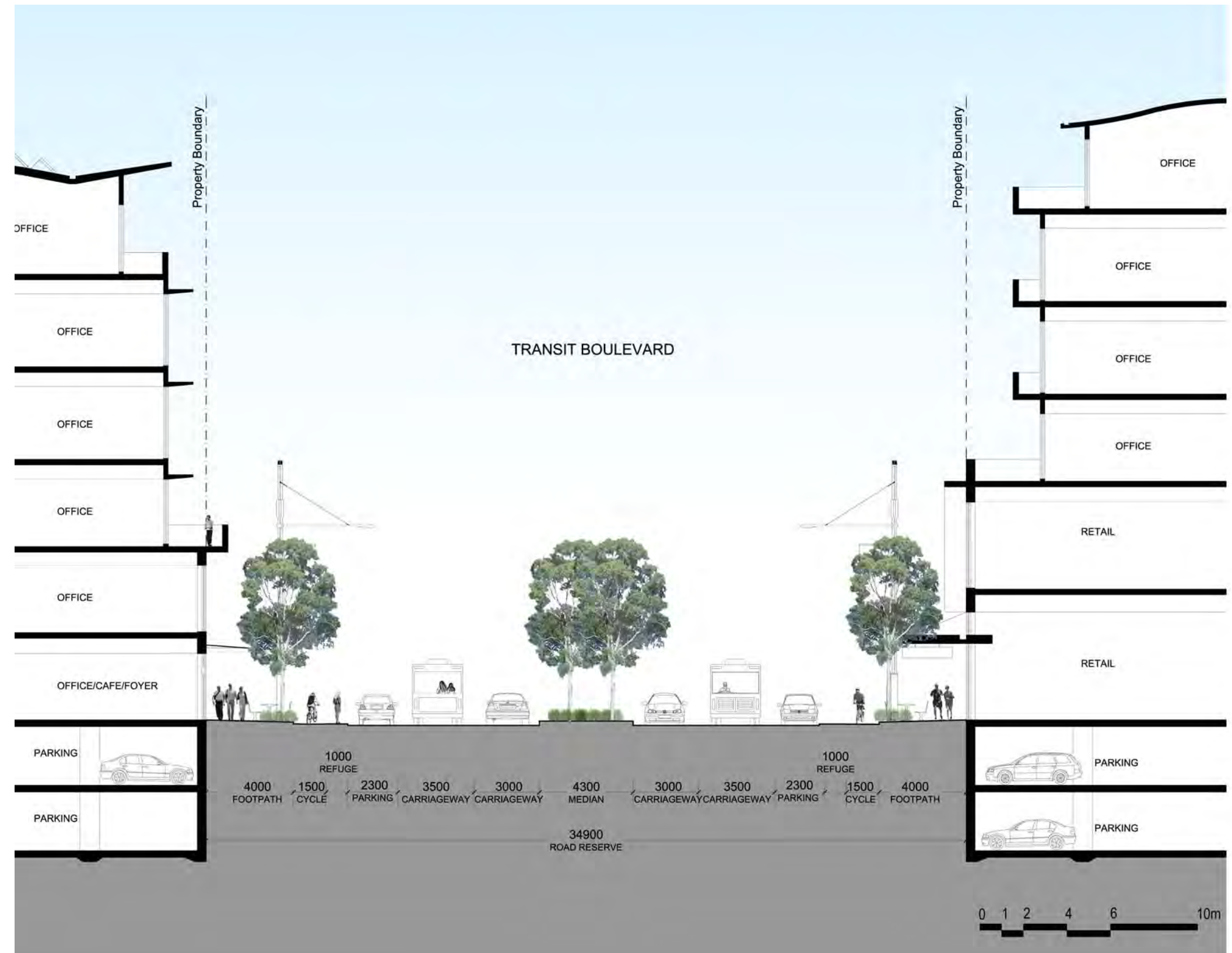
Principal Arterial - Bringelly Road

Initially a four lane arterial roadway with a median, the Bringelly Road cross section has the capacity for six lanes in the future. Tree planting and light poles are located adjacent to the carriageway to provide separation between vehicles and pedestrians, and to improve the relationship between pedestrians and adjoining development. Shared pathways are provided on both sides and generous landscaped setbacks to buildings fronting the road are provided. The specific cross section will be determined by the RMS.



Transit Boulevard – Rickard Road

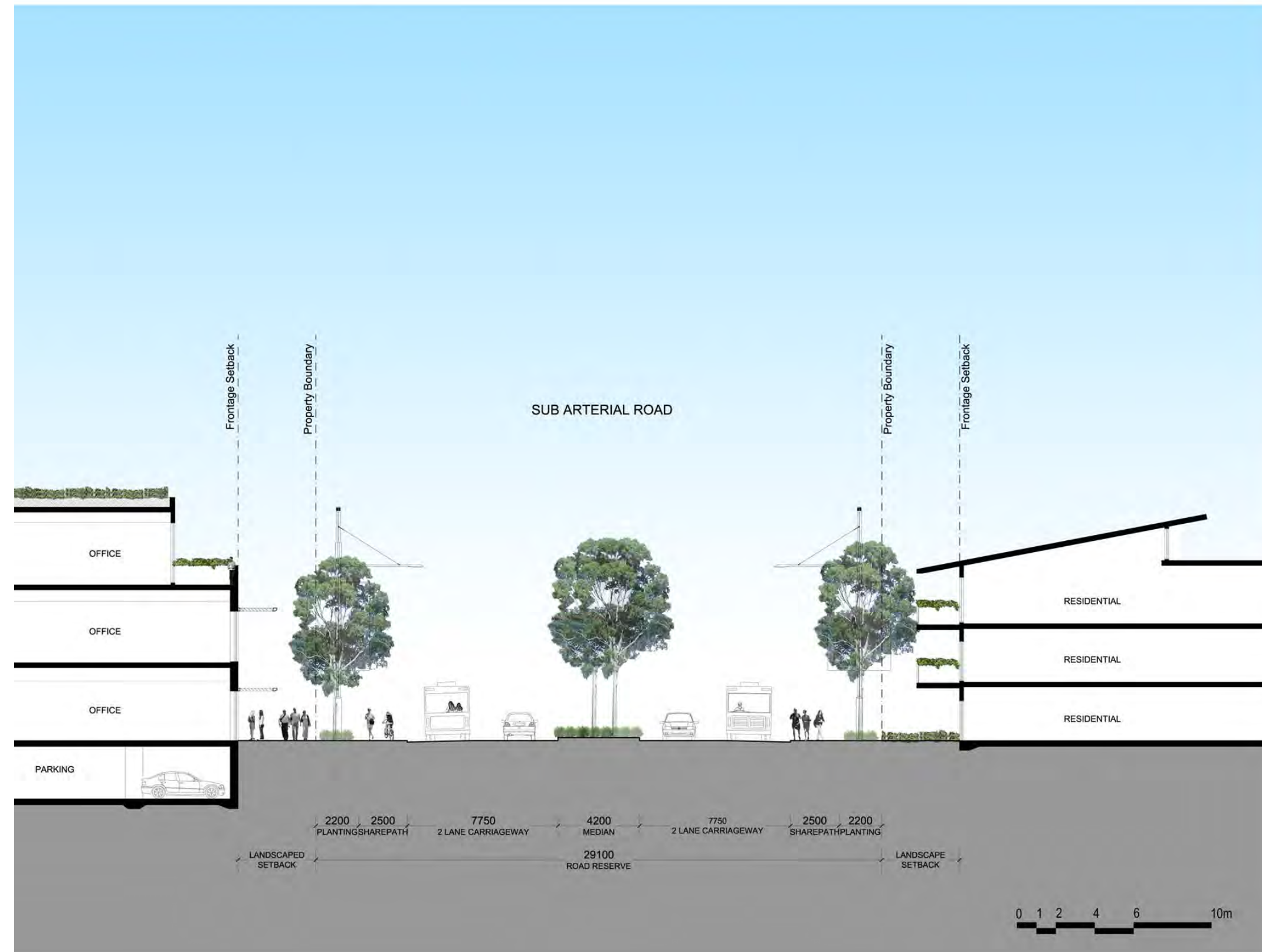
A generous four lane boulevard with a bus transit function is complimented with generous footpaths and dedicated cycle lanes. A median accommodates a third row of street trees enhancing the grand scale of this important urban spine.



Transit Boulevard – Rickard Road

Sub Arterial – Byron Road Illustrated

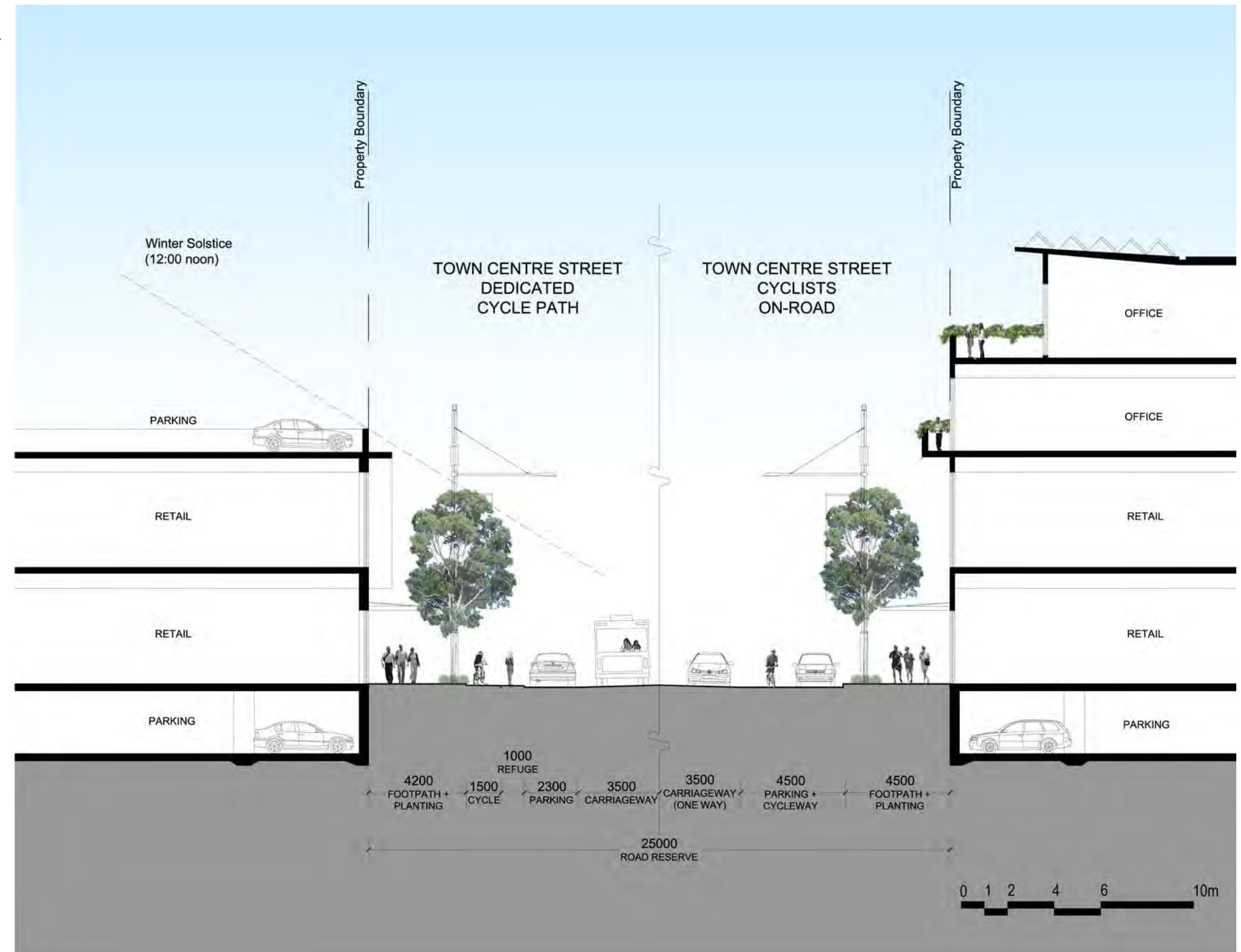
Byron Road, Cowpasture Road, Dickson Road, Eastwood Road and Ingleburn Road all share this road cross section. A variety of building setbacks are employed from the primary carriageways to address frontage conditions. Vehicular access and parking is limited. Median and verge street tree planting, lighting and shared paths are provided.



Sub Arterial – Byron Road Illustrated

Town Centre Main Street

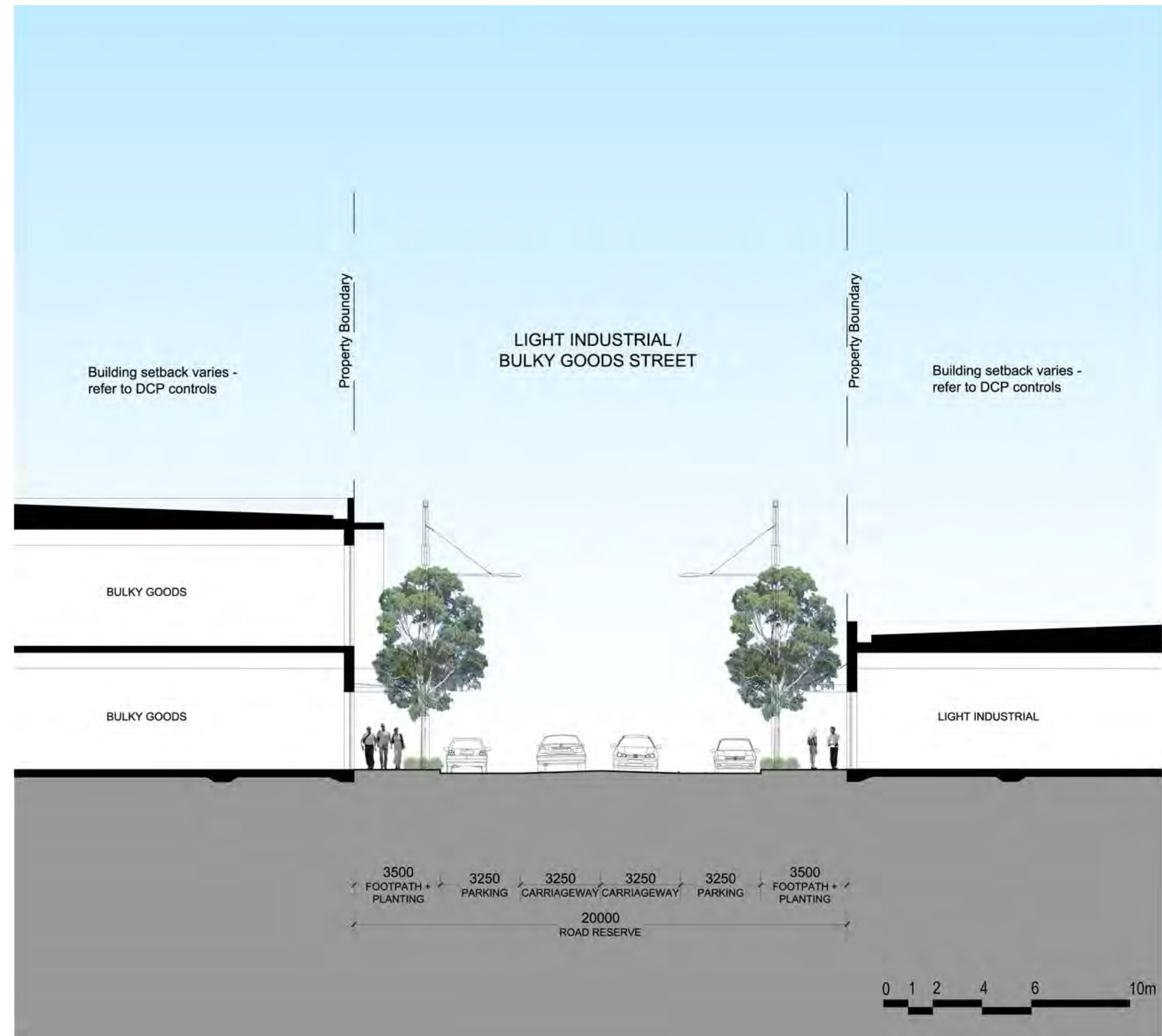
The town centre main street type provides both 'main street' identity and a general town centre framework for commercial and retail activity. This urban two lane street incorporates generous footpaths, parallel parking and either on-road or dedicated separate cycle lanes on both sides. Street trees, lighting and awnings provide pedestrian amenity.



Town Centre Street

Light Industrial/Bulky Goods Street

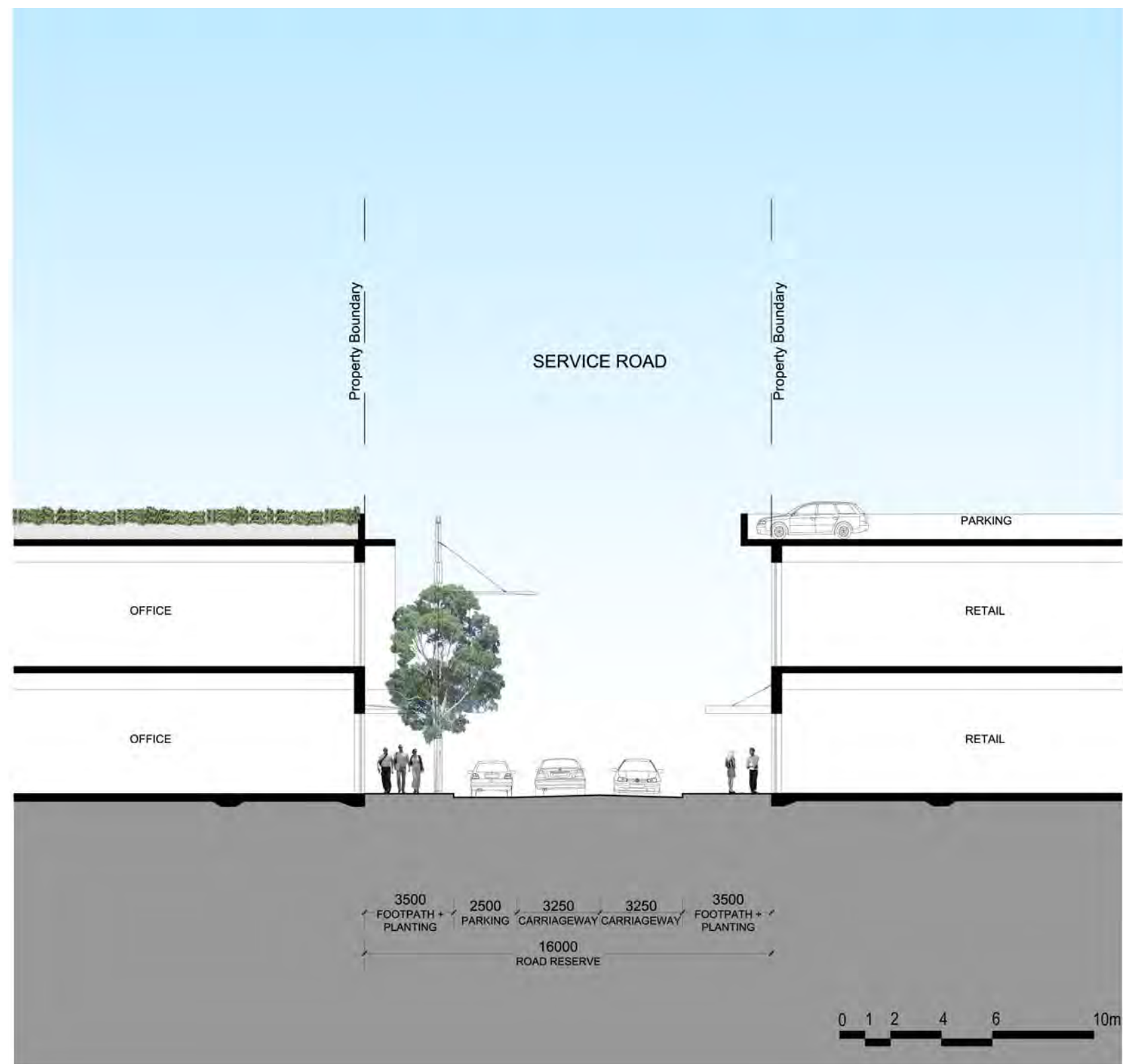
This street type is a general purpose (non-residential) street within the town centre. This urban two lane street incorporates regular width footpaths, parallel parking and the carriageways are shared by vehicular traffic and on-road cyclists. Street trees and lighting provide pedestrian amenity.



Internal Access Street/Service Road

These streets may be pedestrian only or low traffic volume streets with an emphasis on high pedestrian amenity, and creating a finer network of streets within the centre. Retail and other commercial development is oriented to these streets, generating active urban frontages.

When carriageways are incorporated they may be one way, have travel paths defined by bollards, rather than kerb and gutter, and are likely to be shared by vehicles and cyclists. Street trees, lighting, seating and occasional awnings provide pedestrian amenity.

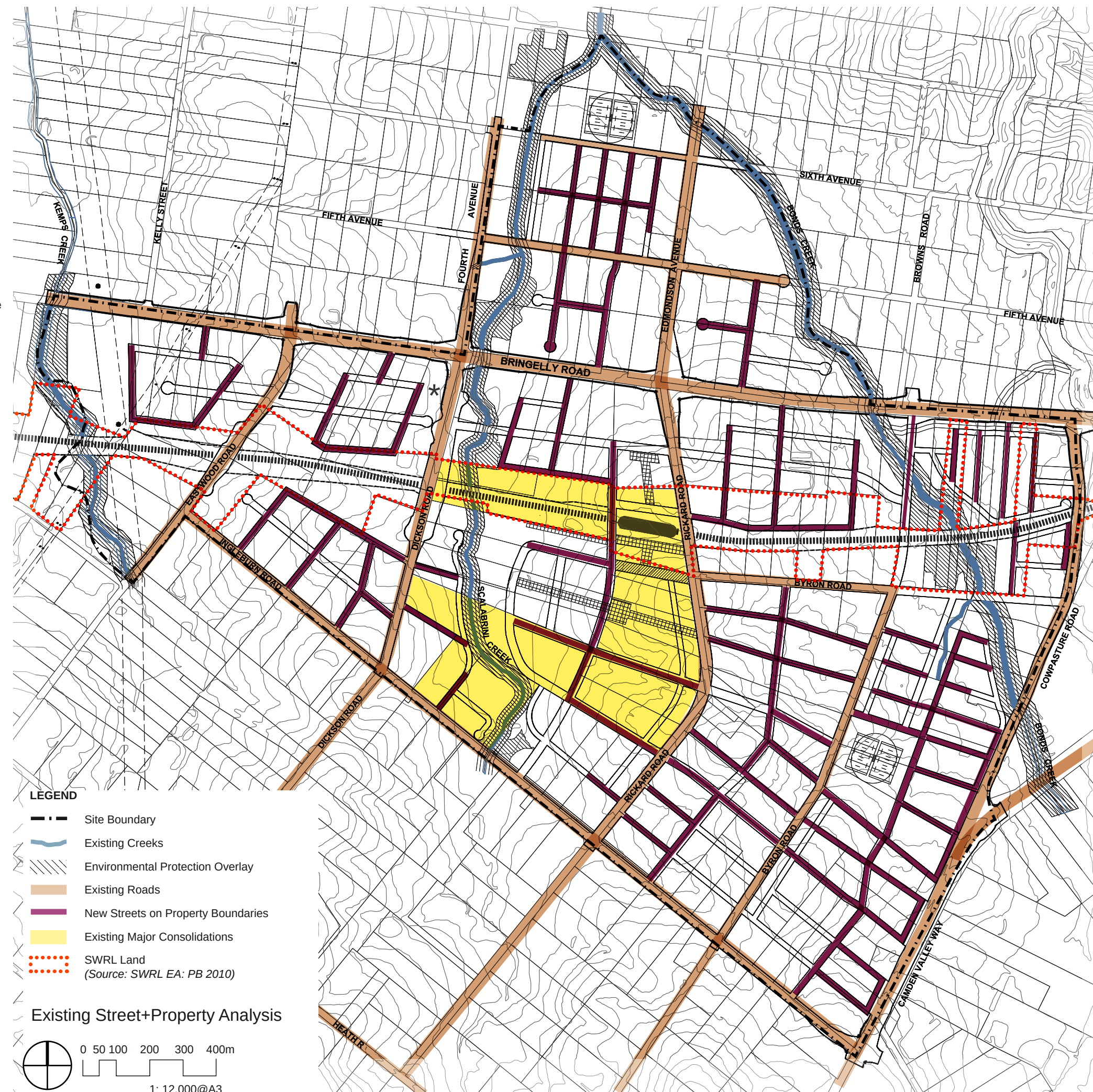


Internal Access Street

4.9 Existing Street & Property Ownership Study

To ensure an efficient implementation for the new town centre, a study of the existing urban development pattern was carried out. This study identified which streets could be incorporated into the new road structure and where existing land ownership boundaries could facilitate creation of new streets.

- 100% of existing road corridors are incorporated.
- New streets generally follow existing property alignments.
- Reasonable development block sizes are provided to suit the proposed land uses.
- Existing major consolidations will assist the implementation of Retail Core development, the Byron Road extension to the north and the construction of the town centre electricity substation.
- Surplus SWRL corridor construction parcels may assist in the implementation of the station precinct.



4.10 Built Form & Massing

The masterplan establishes and defines the town centre built form, the spatial structure of the town centre and the scale experience of the public domain.

Built Form

The town centre streetscapes and open spaces are generally defined by buildings, built to the boundaries of the town centre blocks.

Scale

Street frontage height, in relation to the street cross section, establishes the experience of the scale of urban centres. The built scale and expression of these street frontages and of the key town centre street corners is an important urban design consideration. The built form recommendations, urban design guidelines and development controls reinforce the 'human scale' of the town centre.

Massing

The town centre built form is intended to avoid inappropriately scaled massing or overshadowing impacts on the public domain, private living spaces or items of heritage significance.

The town centre massing responds to the scale of future surrounding residential neighbourhoods. It provides a build up in height from edge conditions and sensitive creekline environments, to taller buildings at the railway station and along the Rickard Road spine.

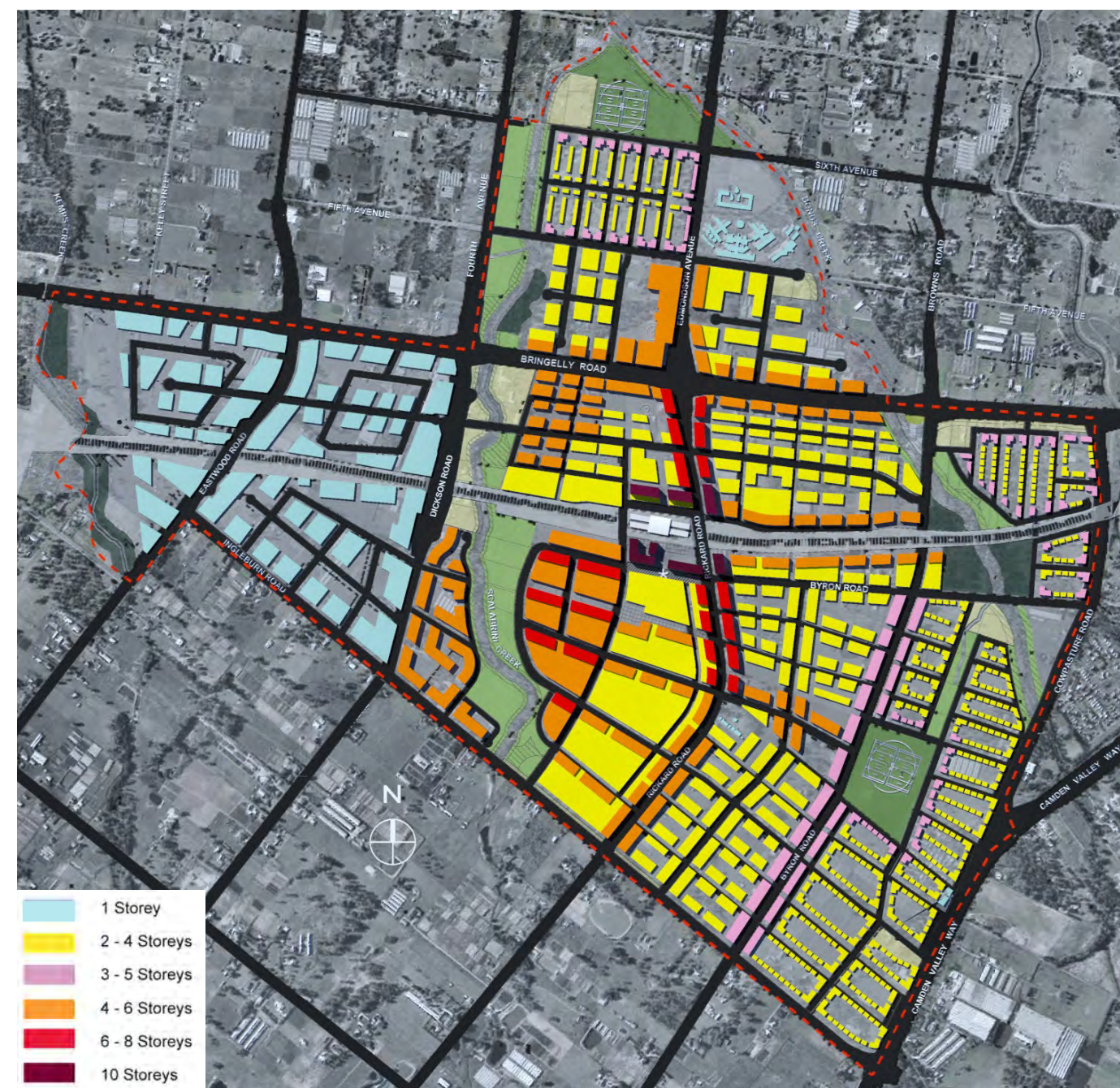
The following principles have guided the design of the Leppington Town Centre built form:

Principles

- Establish an overall town centre built form that is legible, and that enhances way finding.
- Establish a public domain that is safe and incorporates opportunities for passive surveillance and avoids dead end access arrangements.
- Building height will increase toward the railway station, the Rickard Road spine and will be clustered around major urban places.
- Build-to frontages define the town centre edges, blocks, public spaces and main streets.
- Reinforce east-west landscaped pedestrian friendly 'green ways' to link with the green creek corridors to the east and west of the town centre.
- Consider ESD including block orientation, building width (generally no more than 30 metres for office, civic and community functions), and access to light and air.

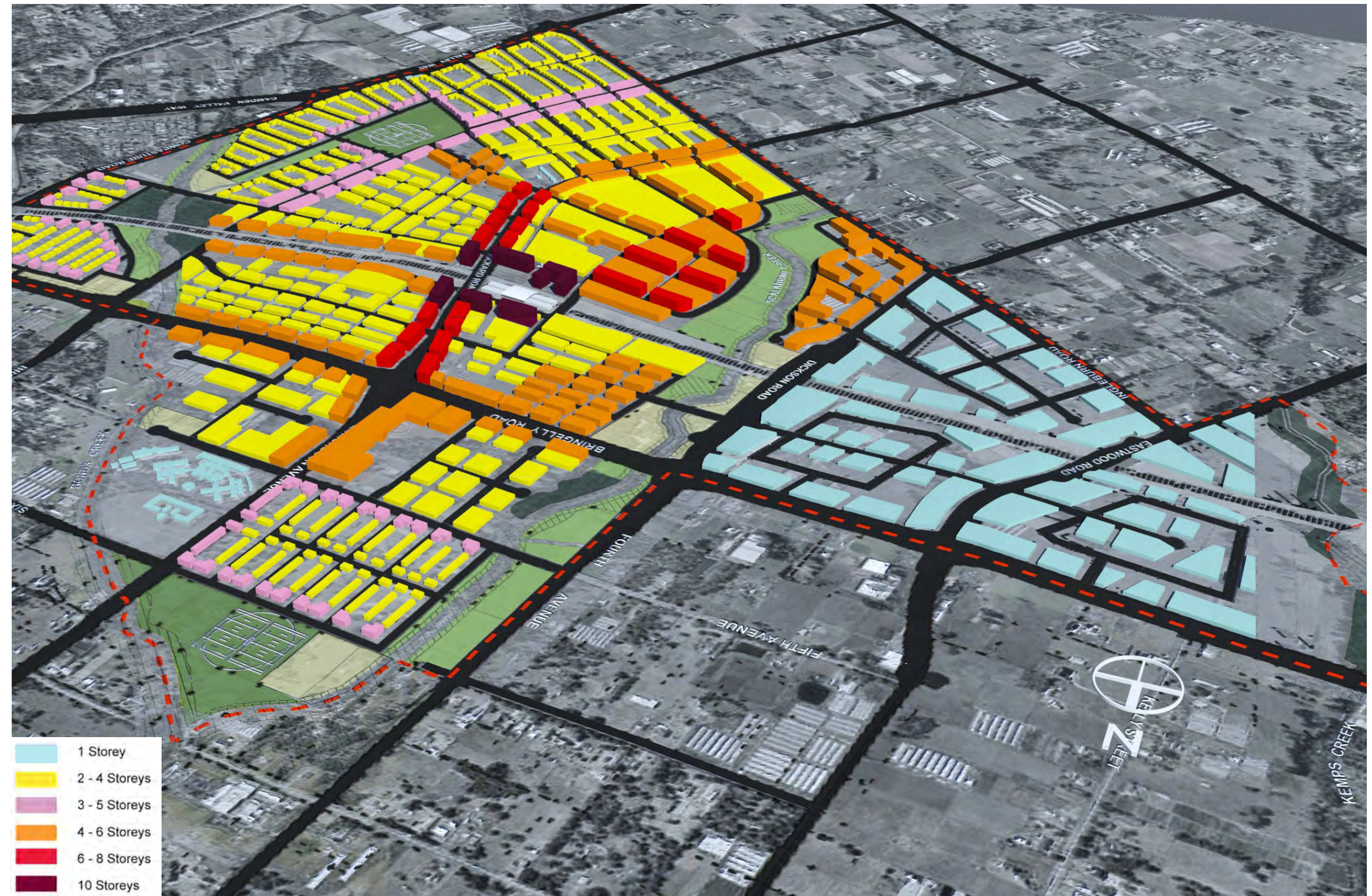
- Maximise built form permeability to ensure a rich, 'fine grained' urban scale, good interconnectivity of town centre precincts, and easy access to the station and bus services.
- Incorporate building setbacks required from electricity infrastructure and railway overbridge.

A fundamental consideration in the urban design of the proposed town centre built form has been the integration of Ecologically Sustainable Development (ESD) principles. In line with GCDC guidelines the town centre built form considers lot shape and orientation, and access to natural light and cross ventilation.



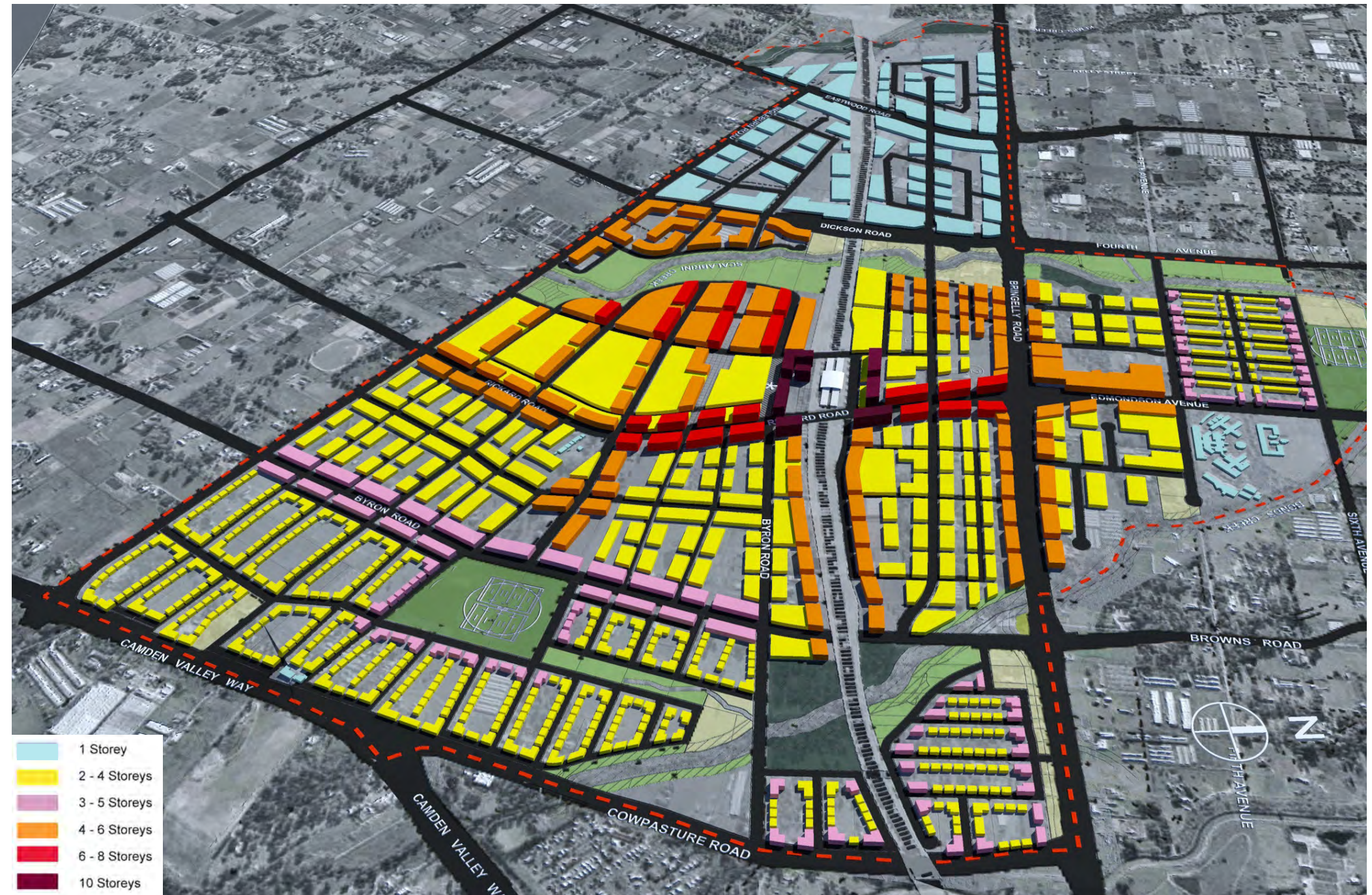
Visualisation from the North

This 3D visualisation of the proposed town centre built form highlights the parallel east-west infrastructure of the SWRL and Bringelly Road corridors, the perpendicular town centre main street spine, and the Rickard Road/Edmondson Avenue transit boulevard. The Aquatic/Sports Centre facility and Bulky Goods Retail precinct can be seen in the foreground.



Visualisation from the East

This 3D visualisation illustrates the progressive build up in scale from the medium density, residential neighbourhood in the foreground, to the taller, mixed use buildings in the centre that define the Rickard Road spine. Taller buildings cluster around the railway station and associated open spaces, and reinforce the Rickard Road axis.



Visualisation from the South

This view illustrates the Rickard Road spine with the retail/mixed use precinct to the left and the business park to the right. The railway station and associated Market and Civic plazas are framed by taller buildings.



4.11 Public Domain

Open Space Structure

The Leppington Town Centre will have a series of green spaces and green ways that form a connected network. This network of green spaces will reach out to the creek floodplain and proposed riparian corridors that define the town centre periphery, and beyond to the future residential neighbourhoods and park/open space networks planned for the surrounding SWGC precincts.

The proposed urban east-west ‘green links’ and the associated town centre parks and plazas will connect town centre residents and workers with recreational opportunities and with attractive native landscapes and parkland providing an important counterpoint to the town centre’s urban lifestyle.

Urban Places

The town centre public domain network is comprised of connected urban destinations that draw their character from the town centre’s location and environmental setting. The desired future character of these urban places is described below:

Rickard Road Boulevard

Envisaged as a grand urban promenade, its 34.9 metre width allows for generous footpaths. This vibrant promenade would be lined with shopfronts and would incorporate bus stops with waiting areas and shelters, kiosks, bicycle racks and bench seating. Outdoor seating areas associated with cafe and restaurant strips would further animate the journey.

Rickard Road Boulevard would provide an important public transport spine linking the town centre to surrounding precinct, town and neighbourhood centres and, via Leppington Station, to the nearby cities of Liverpool and Parramatta.

Dense development will line the main 900 metre section of this urban ‘spine’, reinforcing the town centre ridgeline. Ground level frontages are activated by shops, apartment foyers and offices.

The boulevard will be a focus of activity; as buses pick-up and drop-off passengers, and as vehicular traffic, cyclists and pedestrians share the corridor, travelling to and from the station, to destinations within the town centre, or to adjoining town centres or neighbourhoods.

As the boulevard develops its mature form, it is envisaged that the posted speed limit will reduce to 50 km/h or lower, to ensure a safe environment for pedestrians. On-street parallel parking will naturally slow traffic and provide a buffer between the vehicular carriageways and the footpaths.

A defining feature of the boulevard will be rows of large street trees along the street edge, with their canopies arching over the thoroughfare to provide shade in summer. Tree planting in the median will further reinforce this spine.

At night the promenade will light up with shop windows, cafes and entertainment venues, all contributing to a lively night time scene.

Civic Square

An urban square is proposed immediately north of Leppington Station. It will provide a focus for the Civic Precinct, proposed for the northwest of the town centre. The precinct will contain a mix of civic, community, arts/performing arts, justice and TAFE facilities that would provide an arts theme and vibe for the square.

The urban square would be flexible in design, with some hard paved areas suitable for gatherings, or as small performance spaces; and would incorporate groves of shade trees to provide shelter, to reduce summer glare and heat, and to break the overall space into a series of interconnected outdoor urban ‘rooms’.

The locations for tree planting and kiosk/pavilions incorporated within the square would ensure views of the station entry are maintained. Building frontages to the north and west of the square and the activity of the Rickard Road Boulevard to the east would activate these edges, as would the station entry to the south.

There is an opportunity for the public areas of the proposed Cultural/Community Centre and ground floor retail tenancies and apartment foyers to open out onto the square, and on upper levels overlook the square; animating the space and also maximising safety with passive surveillance.

Residential apartment buildings and community facilities are proposed, clustered around the square, benefiting from close proximity to both a public transport hub and to a lively urban green space.

Market Square

A square is proposed to the south of Leppington Station suitable for weekly markets serving the SWGC.

The square will provide the main gateway to the retail and commercial core of the town centre - to the south of the station. A bus interchange facility is proposed south of the square.

The square would be of a flexible design, comprised primarily of hard paved areas with groves of shade trees to provide shelter, and to reduce summer glare and heat. Views of the station building and entry would be maintained from Rickard Road.

The square could incorporate interpretive signage or artwork, marking and explaining the Aboriginal heritage of the location. It is envisaged that ground floor retail frontages would be incorporated into the Bus Interchange development. The square would benefit from the activity of the Rickard Road Boulevard to the east and the station entry to the north.

Residential apartment buildings and commercial offices are proposed, clustered around the square, benefiting from close proximity to both a public transport hub and to an urban plaza that can host weekend markets, cultural events and festivals.

WV Scott Memorial Place

A small public square is proposed at the corner of Bringelly Road and Edmondson Avenue, and associated with the new Aquatic/Indoor Sports Centre.

This visually prominent corner, culminates the urban axis of Rickard Road. It also marks the town centre entry at the intersection of Bringelly Road and Rickard Road.

The existing memorial plaque and possibly additional supporting information signage would be incorporated into a new urban square at the corner. The design would respect the original intent and intimacy of the memorial, but set it within the new urban scale.

Leppington Public School Interpretive Place

Once the school is relocated to a new site, several historic weatherboard school buildings will be retained and a heritage curtilage defined around the building group to ensure that an appropriate setting is maintained.

Interpretive signage is proposed to explain the history and significance of the site. It is envisaged that some of the buildings could, subject to further heritage advice, be reused for a café or child care facility.

Buildings controls around the curtilage ensure an appropriate scale transition between the historic building group and the surrounding business park.

Scalabrini Creek Corridor

A park of generous proportions is proposed on the west edge of the town centre retail/commercial precinct.

Engagement with park spaces is encouraged through decks, boardwalks and balconies taking in the picturesque riverside park landscape and the panoramic views.

Stormwater management and water quality treatment proposed along Scalabrini Creek is integrated within the park.

Proposed east-west pedestrian pathways would connect the town centre commercial/retail core with the residential precinct on the west side of Scalabrini Creek.

Water Plaza

A smaller urban plaza of approximately 50 by 30 metres is proposed at main street, at the heart of the town centre retail precinct. The plaza would provide a focus for the shops, café and restaurants opening out to the space.

A centrepiece of the plaza could be an interactive water playscape incorporating child safe programmed fountains and pools, and playful sculptural elements.

This largely paved square would be landscaped with trees defining seating areas to watch the informal activity of the plaza.

Eastwood Road Interpretive Markers

The original Eastwood Road alignment has been identified as a significant cultural landscape. Interpretive sign markers are proposed, located in the building setback zone, at the beginning and end of the original Eastwood Road alignment, to mark and explain the heritage significance of the original alignment.

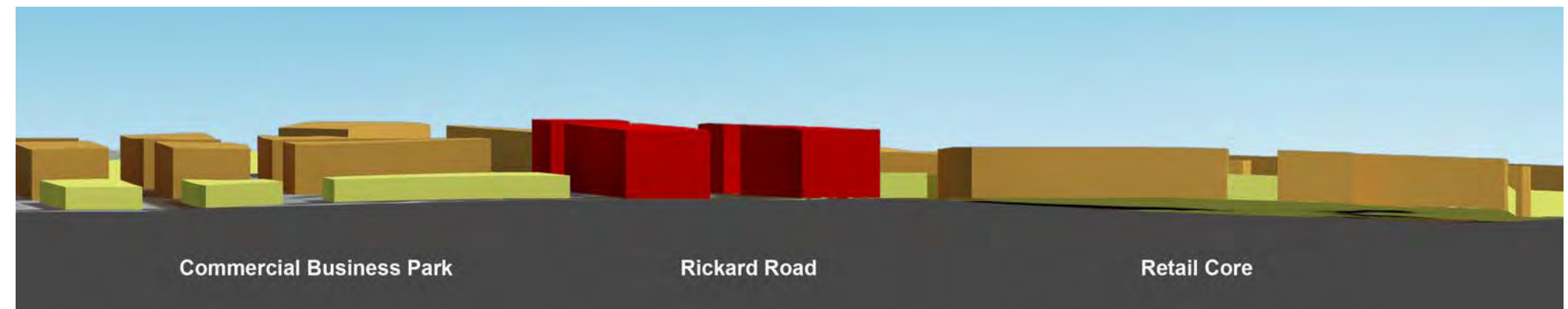
Two small urban places, perhaps only three to four metres square, would result providing an interlude along the regular street footpath.

Town Centre Cross Sections

The town centre cross sections provide an overview of the proposed scale and massing of the town centre built form, and illustrate the progressive build up in scale from the town centre periphery, to the heart of the centre.



Section A-A



Section B-B



Section C-C

5.0 Draft Development Control Plans

5.1 FSR

Leppington Town Centre has the potential to offer a variety of integrated commercial and residential precincts and a land use mix that includes a variety of residential accommodation which will contribute to an integrated, mixed use, work/live/play lifestyle.

Actual FSRs pursued in planning instruments will be developed from the area schedule included in Section 4.0.

5.2 Building Heights

Building heights progressively increase from the town centre periphery. Building heights also build up towards the spine along the north-south ridgeline of the town centre. Rickard Road Boulevard following this ridge will be the widest street in the town centre.

The building heights illustrated reflect the typical floors appropriate to each land use. For example: light industrial uses generally require a single storey with large floor-to-ceiling heights, retail shopping centres and business park uses require two storeys, whilst residential apartment buildings can be of six to ten storeys and require smaller floor-to-floor height. Building heights currently defined as a number of storeys, will be defined in metres at a later stage for planning instruments.

