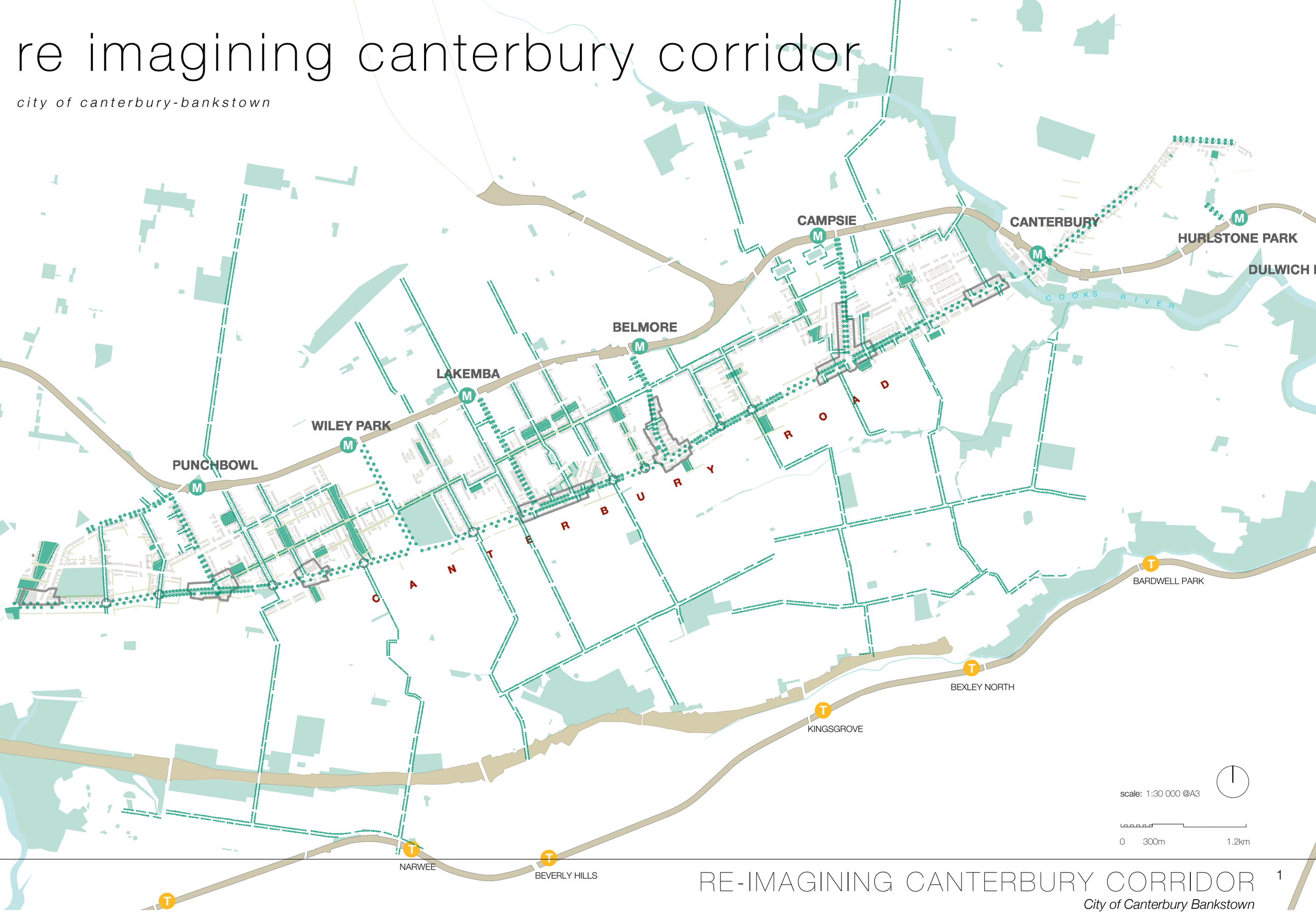
re imagining canterbury corridor

city of canterbury-bankstown



contents

Executive Summary
Structure

1.0 Introduction

1.2 The Canterbury Road Corridor Study Area
1.2 Scope
1.3 Report Structure
1.4 Methodology

2.0 Policy Context

2.1 State Policy
a. Draft South District Plan – Greater Sydney Commission, (2016)
b. Draft Sydenham to Bankstown Urban Renewal Corridor Strategy, Department of Planning and Environment, (2015)
c. Local Government Area Open Space Guidelines, Department of Planning and Environment, (2010)
2.2 Local Policy
a. Residential Development Strategy 2013
b. Towards 2030 City of Canterbury Economic Development and Employment Strategy (2009)
c. Draft Open Space Strategy Bankstown City Council (2016)
d. Draft Community and Cultural Facilities Strategy (2016)
e. Draft Canterbury Road Economic Analysis Draft Report 1 (SGS 2017)
2.3 Summary - key considerations

3.0 Canterbury Corridor: Existing Environment

3.1 Location in Sydney Metropolitan Area
3.2 The existing character of Canterbury Road & Key Attributes
3.3 The role of Canterbury Road Corridor
a. Existing traffic conditions
b. Public transport provision
c. Cycleways
3.4 Topography and Streets
3.5 Storm Water and Flood Affected Sites
3.6 Heritage and Historic Subdivision
3.7 Open space provision, distribution and accessibility
3.8 Suitability of Additional Development Along Canterbury Road
3.9 Community Facilities distribution
3.10 Walkability and access to public transport
3.11 Summary – key findings

4.0 Re Casting Canterbury Road Corridor

4.1 Canterbury Road Plan
4.2 Canterbury Road Sections
4.3 Existing Controls
4.4 Analysis of nominated DAs
4.5 Built Form
4.6 Review and Recommendations & Built Form Matrix
4.7 Centre on Canterbury Road at Rossmore Avenue
4.8 Precincts in Detail
a) Rosemont Avenue, Punchbowl
b) Haldon Street, Lakemba
c) Beamish Street; Campsie
4.9 Noise Barrier Buildings
4.10 Yields

5.0 Greater Canterbury Road Corridor; City-Making

5.1 The Vision & Urban Elements
5.2 Public Space Strategy
Main Streets as Social Identity and Interaction
Capturing Public Transport Enhancements
Enlivening existing and New Liveable Centres
Creating a walkable network of Quality Streets, Lanes and Walkways
Providing Safe and Accessible Parks, Squares and Natural Places
Provide a Diversity of Housing, Employment and Community Facilities
5.3 The Green Grid of Canterbury
A1 Canterbury Road - between centres
A2 Canterbury Road - at centres
B1 Main Streets - enhance existing
B2 Main Streets - extensions
B3 Parking Streets to support town centres
C1 Broadway - a landscape boulevard
C2 Park to Park Streets - with Cycleways
C3 Park to Park Streets - with Bio-Swales
C4 Linear Parkways
Material Palate
5.4 Urban Forests & Heat Island Effect

6.0 Re Imagining Greater Canterbury Road Corridor Possibilities for a New Urban Form

6.1 Re Imagining Greater Canterbury Road Corridor Plan
6.2 Potential Mechanisms to deliver new public domain
a) Acquisitions
b) Dedications
c) Contributions
6.3 Built Form
a) Missing Middle Scenario West
b) Missing Middle Scenario East

7.0 Recommendations
8.0 Glossary

executive summary

The greater Canterbury Road corridor includes the Sydenham to Bankstown Urban Renewal Corridor and takes in the land between the Sydenham to Bankstow railway line and Canterbury Road. Canterbury-Bankstown Council have engaged Hill Thalis and Wood-Bradley Brooks Consulting to provide advice on built form, land use, open space and other urban design solutions to assist with establishing a new vision for the corridor. In order to provide soundly based and comprehensive advice the following steps have been undertaken:

- Identifying and understanding the spatial implications of state government growth projections and housing targets for the Canterbury Road corridor;
- Understanding the capacity to accommodate growth targets under existing planning controls;
- Identifying amenity and capacity constraints of the immediate Canterbury Road environment;
- Reviewing a range of recent development applications for mixed use and residential redevelopments along Canterbury Road against SEPP 65* provisions and identify any shortcomings of existing planning controls;
- Undertaking detailed analysis of existing open space provision and shortfalls against accepted NSW Local Government Area* open space provision benchmarks and identify implications for urban renewal in the corridor;
- Undertaking an assessment of the existing street and pedestrian network in relation to walkability, accessibility to public transport, open space and community facilities;
- Proposing ways to remedy identified deficiencies to the existing open space and street, lane and walkway network including recommendations to address identified deficiencies; and
- Proposing ways to deliver responsive and innovative architecture located to deliver complete neighbourhood structure with the right scale, density, diversity and amenity as well as an exemplary public realm.

Initially, the work was focused on the land abutting the length of Canterbury Road (see pg 14).
However, Council and an inter-agency steering committee following consideration of the suitability of Canterbury Road for intensive urban renewal along its length, and the extent of work required to improve the amenity of the road, agreed to:

- Refocus urban renewal to a series of centres and localities, with limited footprint, along the Canterbury Road and the north-south streets that connect to the rail corridor and the train stations;
- A concept for a limited upgrade of Canterbury Road targeted at enhancing public domain quality and level of service within the identified centres and localities rather than along its full length;
- A new active travel network;
- A refined 3-dimensional framework that includes key north south streets;
- A series of public domain enhancements including a network of new local parks and connecting streets as well as enhanced north south streets that establish and reinforce a green grid for the greater Canterbury road corridor.

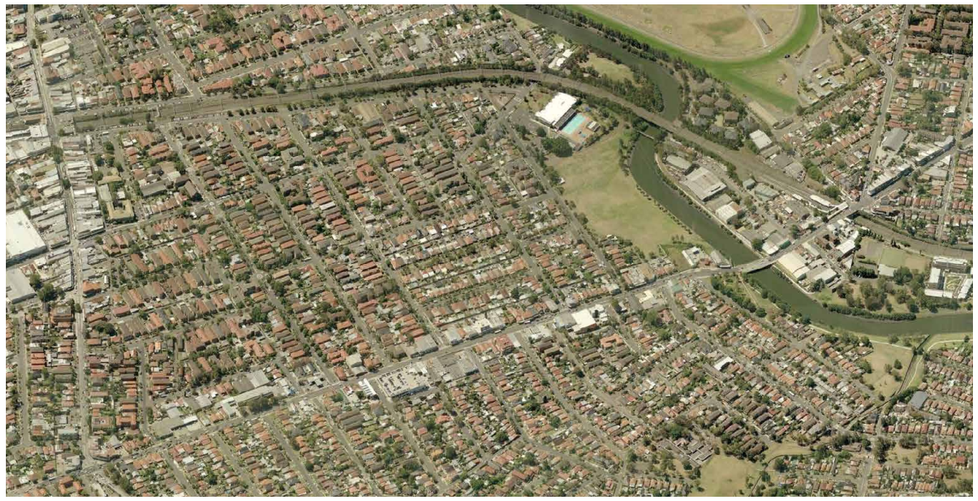
Density correlated with amenity and accessibility

- Due to the unsuitability of Canterbury Road as continuous corridor flanked by high density housing it is proposed to redistribute the density along Canterbury Road to a series of urban centres at key cross streets which connect to the train stations to the north and focus urban renewal along these north south streets.
- An integrated approach is also proposed where higher density forms of 6-9 storeys are located to overlook the new network of parks and green streets. In this way there is a strong alignment of urban density and amenity which is significantly bolstered by the green grid* initiatives.
- This more nuanced approach to the distribution of density provides for much greater housing diversity and building types than what is currently provided for under the existing planning controls. It also provides a possible mechanism for the delivery of new parks and public domain enhancements through the provision of floor space and height bonuses.

Contribution to affordability

- In the longer term apartments and apartment buildings will be the dominant housing form in the corridor. They are long term building stock and therefore there is a stronger public interest to ensuring high standards of design and environmental performance.
- Well located and designed apartment buildings enhances affordable living going beyond the price of a house and takes into account the ongoing costs of occupation including energy, transport, adaptability and life span.
- The Greater Canterbury Road Corridor (see pg 14) provides the opportunity for a community which is less reliant on cars, has better public transport connections, where density in the urban environment is well designed, where infrastructure investment supports strategic planning and where communities are connected and brought together in a way that enhances liveability, sustainability and productivity.
- Innovative approaches to affordability should be provided for in new planning controls. The ‘Nightingale*’ housing project demonstrates a new direction in medium-density living eliminating car parking, sumptuous materials and finishes, and air conditioning.

** all items marked, refer to glossary on page 96*

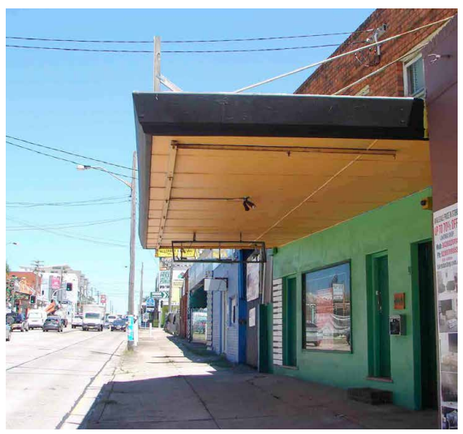


Eastern Canterbury Road Oblique Aerial



Existing Roadway Conditions Central Canterbury Road





Existing Roadway Conditions Eastern Canterbury Road

1. Connective spine and economic backbone for inner south west

Canterbury Road is an arterial corridor that traverses a number of inner south west suburbs. The corridor, and the centres within, form the social and economic backbone for the sub-region with the majority of commercial and retail uses concentrated along this spine and the adjacent Sydenham to Bankstown corridor.

Together with Parramatta Road and the Princes Highway, Canterbury Road is one of the principal radiating commercial corridors for bulky goods and mixed commercial uses. Recently, all corridors are seeing major construction of mixed use and higher density residential redevelopments which means that their character, functionality, transport and amenity needs to be considered afresh.

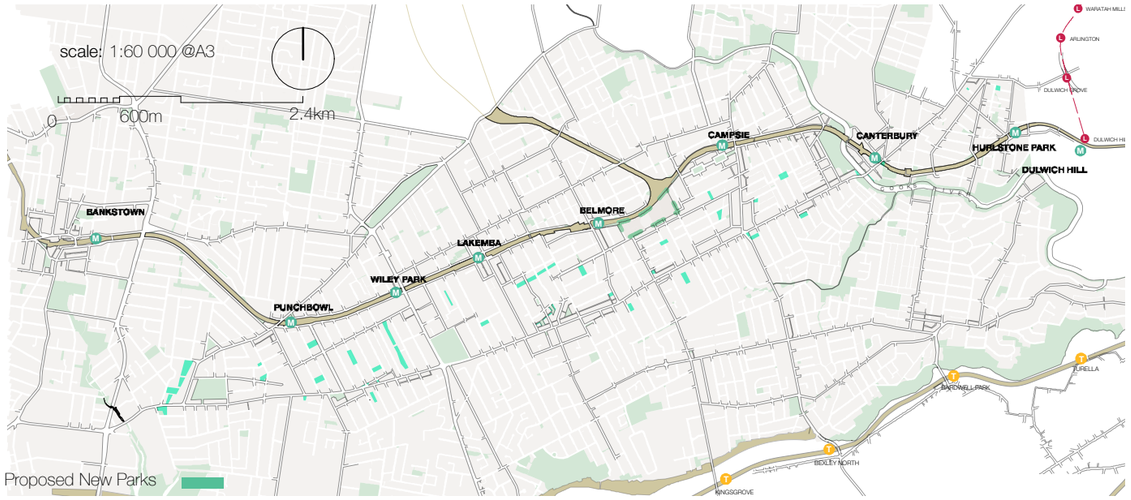
2. Significant growth in housing and jobs is targeted through urban intensification

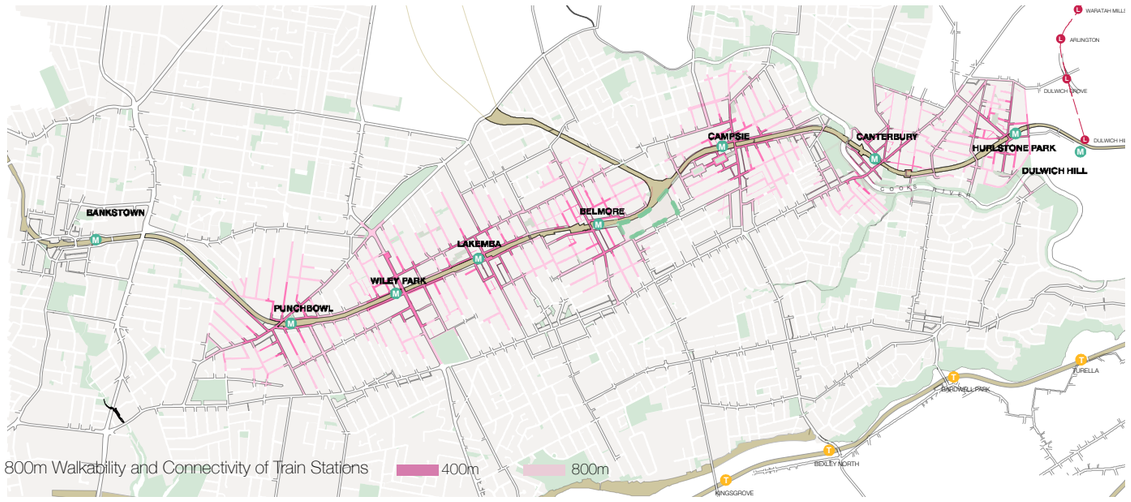
- The State Government's draft South District Plan and draft Sydenham to Bankstown Urban Renewal Corridor Strategy propose ambitious targets for the Canterbury-Bankstown LGA - 13,250 new dwellings by 2021 and 24,521 by 2036 and 40% (4,500) increase in jobs;
- There is unmet demand and need for 'missing middle'* and higher density housing types within the Canterbury Road corridor and surrounds;
- Current zoning and controls provide a capacity for 11,690 new dwellings in the Canterbury LGA sub market. When excluding existing 3 storey walk-ups (unlikely to re-develop), the potential capacity would reduce to 6,860 new dwellings.
- In considering the above the current planning controls do not provide for the targeted uplift in dwelling numbers and there is a need to provide for significant new capacity over and above current controls to achieve these targets; and
- There is a need to provide for significant new capacity over and above current controls to achieve proposed housing targets

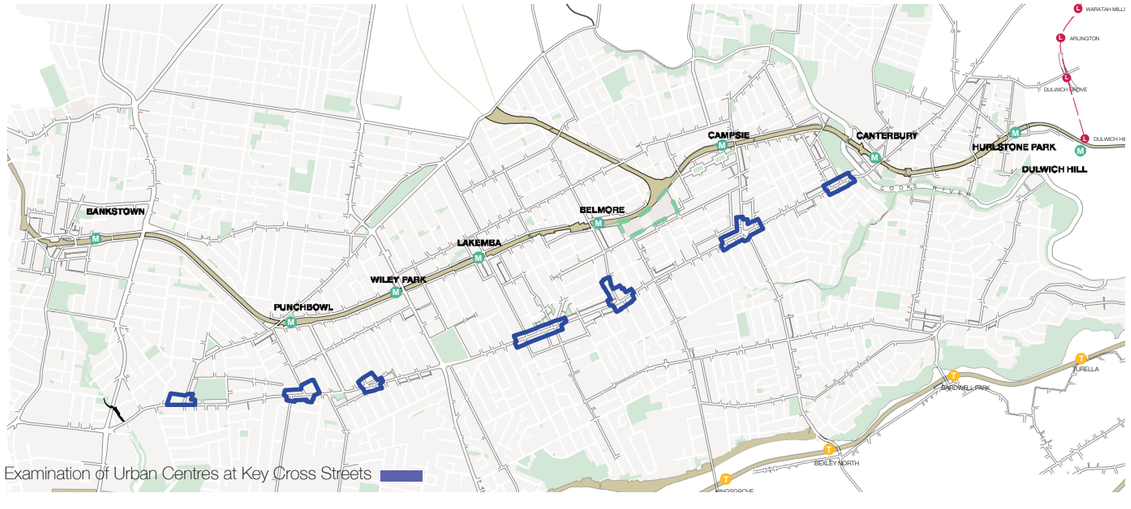
3. Canterbury Road is not currently suited to residential intensification

- Canterbury Road has high traffic volumes and is congested during peak hours and during the day;
- The environmental quality of the road is very poor with no street trees, very poor pedestrian amenity, narrow footpaths with limited crossings;
- Current planning controls allow for significant residential density along its length and tends to bias residential intensification over bulky good and showroom uses.

Canterbury Road is currently a degraded and congested environment that is hostile to urban living







4. The Greater Canterbury Road Corridor has a critical lack of open space

- There is an urgent need to address the critical open space and social infrastructure deficit in concert with urban renewal. This will be further exacerbated with the proposed residential and urban intensification in the corridor;
- Compared to Department of Planning and Environment Open Space Guidelines for Local Government the corridor has less than 20% of recommended local and district parks and these are poorly distributed with poor walking access for local residents;
- A new network of new local and neighbourhood parks and new cross connecting streets are needed to overcome this critical deficiency;

Increases in urban density and intensity within the corridor must be combined with an adequate supply of parks and public spaces that meets emergent community needs. Successful urban renewal is underpinned by foundations for great places and communities; Increased density plus increased amenity.

5. Enhancing Canterbury Road role as an enterprise corridor:

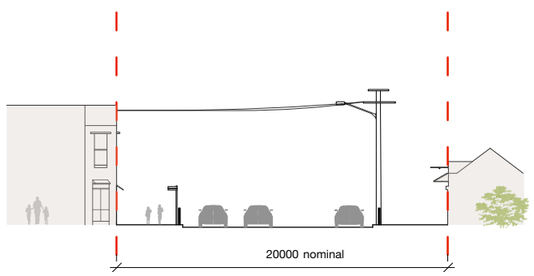
There is a need to:

- Protect existing employment precincts and the role of Canterbury Road as an enterprise corridor;
- Provide for and facilitate mixed use development in association with bulky goods and showroom;
- Ensure residential uses do not compromise future light industrial development along the corridor;
- Concentrate office floorspace within the Canterbury Town Centre adjacent the future Metro Station.

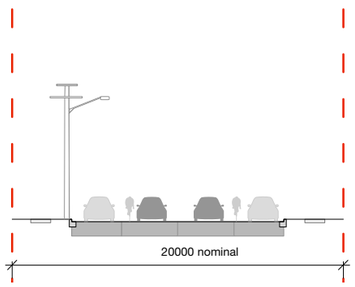
6. Centres of Urban Life

- The eastern portion of Canterbury is currently undergoing significant urban intensification while the western end languishes;
- A more positive urban strategy could actively facilitate more intensive urban centres at key cross streets which lead from Canterbury Road to the railway stations on the Bankstown line and encourage them to evolve as part of the orderly development of the corridor;
- These new main urban centres proposed to include Campsie South, Lakemba South and Punchbowl West with smaller centres located at Canterbury South, Belmore South, Wiley Park South and Punchbowl South; and
- These new mixed use centres are suitable for residential intensification in association with newly created open space and retail centres.

Before

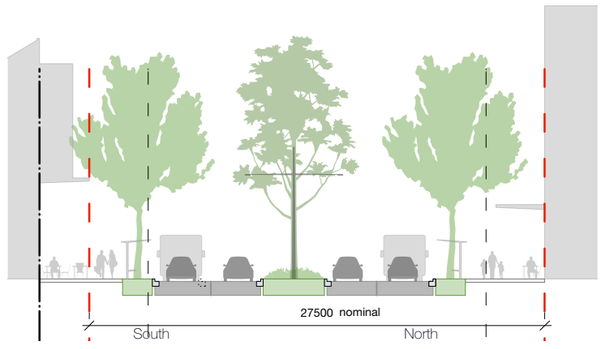


Existing Canterbury Road

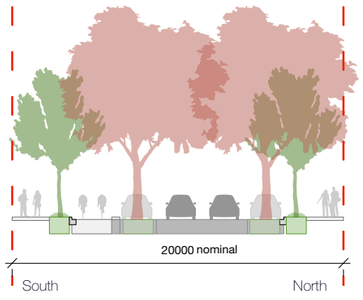


Existing residential street

After



Proposed Canterbury Road at main urban Centres



Proposed residential street & green cycleway

- In order for the main centres of Campsie South, Lakemba South and Punchbowl West to be successful the retail needs to be anchored by a supermarket of at least 1500 square metres with the smaller centres including a corner store.
- In order for these centres to be successful the retail would preferably be anchored by supermarkets; and
- While retail dispersed along the corridor will not survive, bulky good retail and showrooms are viable and should be encouraged along the length of Canterbury Road clustered at key locations.

7. Canterbury Road needs to be re-imagined

The Canterbury Road corridor has many attributes that are not common in Sydney:

- It is well connected, serviced land with embedded infrastructure, gentle topography in a key central Sydney location – close to the City, airport, Port Botany, the Inner West and South and Liverpool;
- Much of Canterbury Road itself is within reasonable walking distance of the converted Bankstown line which will make it highly accessible – the topography is much gentler than the lower North Shore to Hornsby and the street network is well connected to the stations along the line.

8. Canterbury Road should be transformed into a green boulevard

A concept for transforming Canterbury Road over a two stage process is proposed:

- Carriageway widening to more readily enable right turn movements + central median planting
- Verge widening associated with the incremental redevelopment of individual sites creating a new street edge and the establishment of a rear lane network north and south will enhance accessibility and safety;

Sydney's Green Grid



Source: NSW Government Architect's Office, Barbara Schaffer

Prioritising Users in Street Design



Source: Twitter Brett Toderian

Investment in upgrading Canterbury Road will deliver substantial public benefit for the corridor including:

- A continuous central median with right turn storage will enhance traffic function and reduce traffic congestion; and
- Large canopy trees along the median and in widened verge and setback areas will reduce urban heat island effect, enhance amenity for pedestrians and residents along the length;
  - > Moderate noise and pollution;
  - > Improve pedestrian crossing safety by providing a central refuge along its entire length;
  - > Promote significant value uplift for the entire corridor; and
  - > The transformation can happen incrementally and once the full cross-section is delivered in portions, the benefits spurring further private investment and provide impetus to complete the full upgrade.



Central Canterbury Road Character



Victoria Park Development Sydney

9. Greater Canterbury Road Corridor Green Grid

A network of new local parks, cross connecting streets and a programme of enhancing and greening streets is proposed. This will deliver a very significant increase in canopy cover resulting in increased resilience and liveability.

Transformation needs to create a green urban boulevard that is part of Sydney's "green grid." Over time greater Canterbury road corridor will become a place of significance and convergence for the Inner South West of Sydney.

BANKSTOWN

PUNCHBOWL

WILEY PARK

LAKEMBA

BELMORE

CANTERBURY

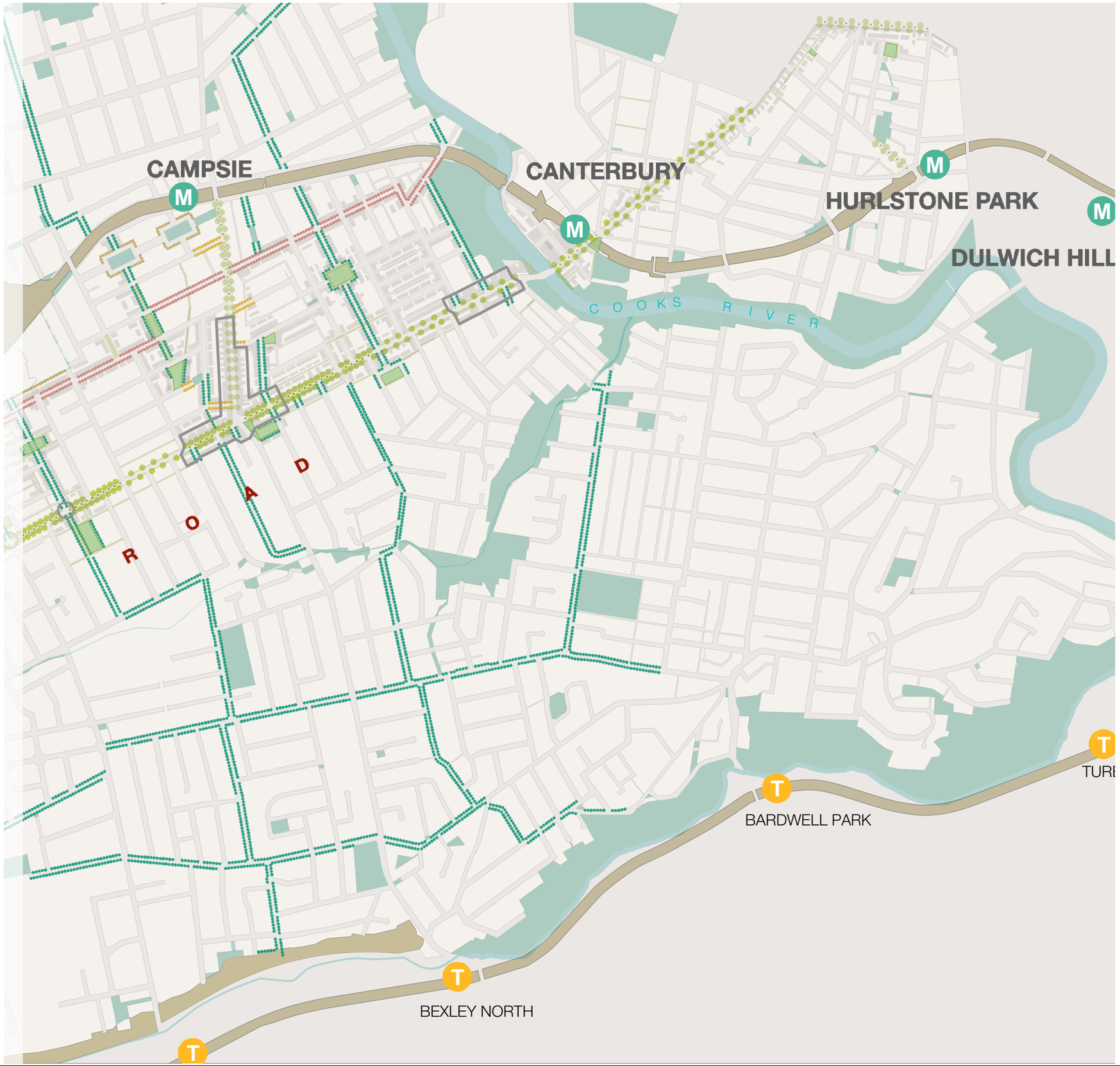
hill thalis
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WBB

The Vision

Transform the Canterbury Road Corridor through design led urban renewal to create a sustainable and resilient place with a;

- Complete neighbourhood structure with a range of accessible parks and community facilities that meet community needs;
- Diverse range of housing types including single family and missing middle* housing types as well as medium and high rise apartment buildings;
- Connective street pattern that facilitates walkability, particularly to parks and community places and public transport;
- Fine mesh of green streets and parks that contributes to Sydney's 'green grid' and canopy cover;
- Comprehensive active travel network that facilitates walking and cycling; and
- Distinctive and high quality public domain that provides memorable and highly valued places for the community to meet, celebrate and to live with dignity.



KEY

- Existing Parks
- New parks
- New centres
- Localities
- Main Street
- Canterbury Road
- North South Green Cycle Streets
- East West Green Spine and Cycleway
- East West Connective Streets

Designing Places for Active Living

"It is well established that the physical environment impacts health and wellbeing *- both at the individual level and at the community level. . . .Designing Places for Active Living seeks to contribute to the range of initiatives addressing these and other issues by proposing key design considerations for urban places in metropolitan, regional and rural areas. These design considerations have the potential to positively impact individual and community health and wellbeing in the broadest sense, thereby meeting multiple health, environmental and social objectives."*

New South Wales Government Premier's Council for Active Living
http://www.pcal.nsw.gov.au/planning_and_design_guidelines

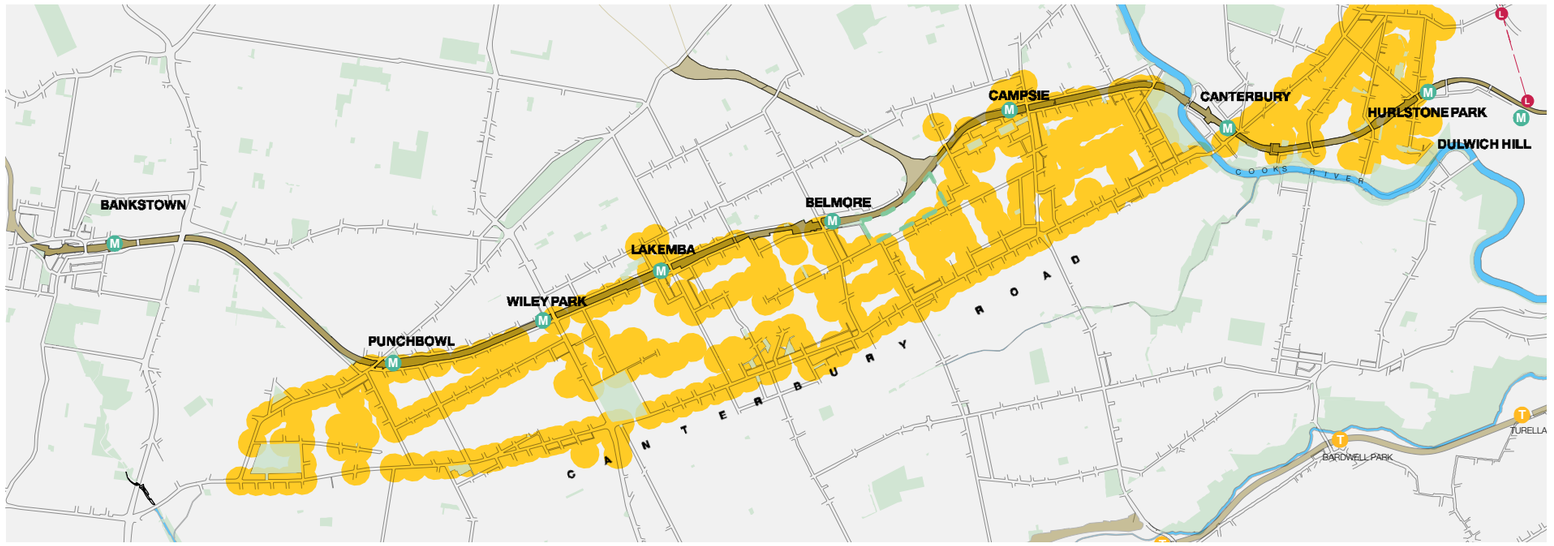
EXISTING



Existing District, Neighbourhood and Local Parks

Parks 200m radius:Local
400m radius: Neighbourhood
1km radius: District

Walkability: 100m radius



Existing Walkability of Urban Form

scale: 1:42 000 @A3

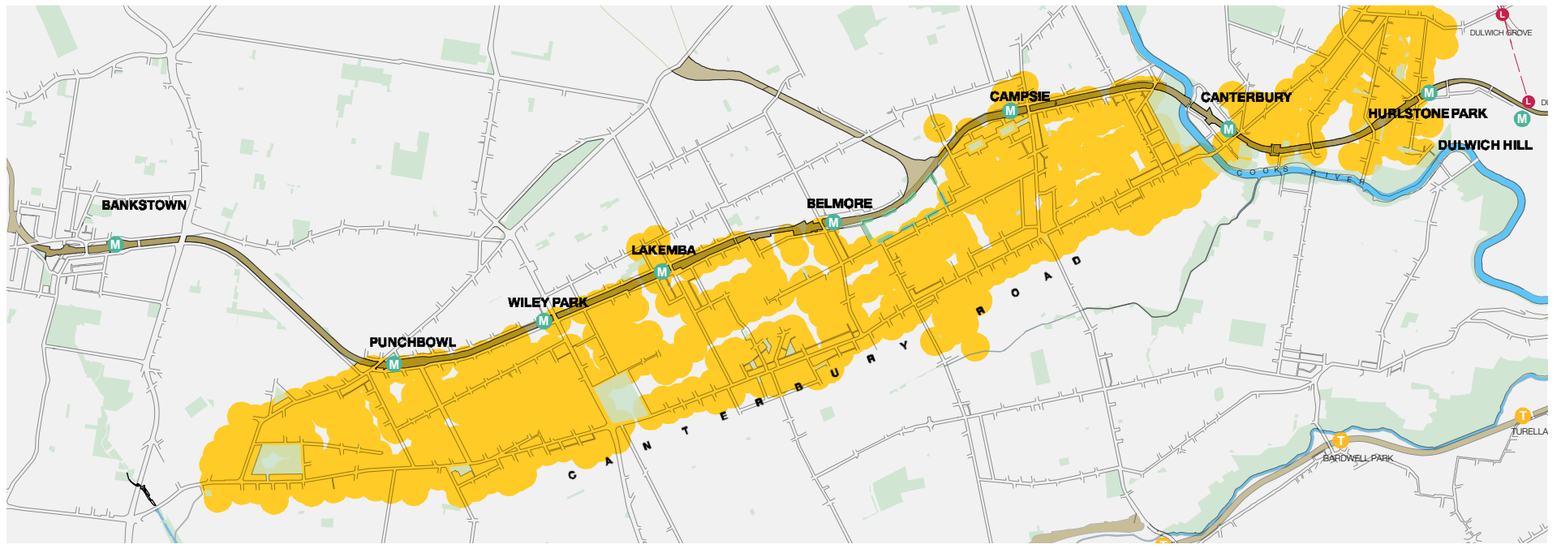
0 420m 1.68km

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PROPOSED



Proposed District, Neighbourhood and Local Parks



Proposed Walkability of Urban Form

The proposed new parks and streets provide a network of local neighbourbood parks that are located to provide an enhanced and evenly distribution of parks and connecting east west streets dramatically improves amenity and walkability.

“Access to a greater variety of local parks supports healthy living choices.”

“Access to a connective network of walkable streets supports healthy living choices.”

Canterbury Road Corridor Study Area



Greater Canterbury Road Corridor Study Area



scale: 1:30 000 @A3

0 300m 1.2km

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1.0 *introduction*

Canterbury Road Corridor

1.1 The Canterbury Road Corridor

The Canterbury Road corridor spans 8.6 kilometres from Hurlstone Park in the east to Punchbowl. It forms the southern boundary of the Sydenham to Bankstown Metro Corridor.

Together with Parramatta Road and the Princes Highway, Canterbury Road is both a main road and is one of the principal radiating commercial corridors for bulky goods and mixed commercial uses. Recently, all corridors are seeing major construction of mixed use and higher density residential redevelopments which means that their character, functionality, transport and amenity needs to be reappraised afresh.

Canterbury Road's role as an arterial corridor connects across a number of inner south west suburbs. The corridor, and the centres within, form the social and economic backbone for the sub-region with the majority of commercial and retail uses concentrated along this spine and the adjacent Sydenham to Bankstown corridor.

The condition of the road itself is poor. The road surface of concrete panels is aged and the jointing between the panels causes significant road noise from car and truck tyres running over the joints. There is also cracking caused by panel expansion and contraction. The environmental quality is further degraded by pollution and grime build up generally along the road corridor, areas of poor drainage and localized flooding.

Canterbury Road corridor is undergoing substantial urban renewal and has significant potential for further development. While current planning controls provide for considerate increases in the number of new houses, targets for this corridor under the Greater Sydney Commission's Draft South District Plan indicate that there is inadequate capacity under existing controls.

Canterbury-Bankstown Council is working closely with the Department of Planning and Environment, Greater Sydney Commission, Roads and Maritime Services (RMS) and Transport for NSW (TFNSW) to review the planning controls along Canterbury Road to ensure orderly development that is consistent with strategic imperatives.

1.2 Purpose and scope

In partnership with NSW State Government, Council is undertaking a strategic review of Canterbury Road from Hurlstone Park to Punchbowl. This review is intended to act as a decisive step towards a revised long term planning vision for the Corridor. The planning vision will seek to optimize social, economic and environmental outcomes over the long term. Council has engaged a range of specialist consultancies to advise as part of this review.
These include:

- Urban Design;
- Economics; and
- Transport and Traffic

The resultant urban design strategy integrates the economic and transport/traffic findings into a coherent long term vision and spatial strategy – a reimagined Canterbury Road.
The vision for the renewed corridor comes out of a deeper understanding of:

- The history and evolution of the corridor;
- The role of corridor in the context of the broader metropolitan Sydney;
- Topography, landscape and ecology
- Key drivers of growth in the corridor;
- Capacity for growth;
- Economic gaps and opportunities;
- Existing and future traffic conditions; and
- The role of public transport and active travel and opportunities for enhancements along Canterbury Road and the metro line;

Ideally this strategy will forecast new life in a way that will lay the foundation for a trajectory of sustainable growth.

1.0 *introduction*

1.3 Report structure;

The report is structured as follows:

Section 1
Executive Summary

Section 2
Summarises existing State and Local policies, identifying key policies and studies and their Implications for greater Canterbury Road corridor;

Section 3
Analyses the existing environment of the Greater Canterbury Road Corridor and identifies key issues;

Section 4
Puts forward key propositions to re-cast Canterbury Road Corridor, reviewing existing built form and presenting built form in a matrix. Further detail is demonstrated for three centres.

Section 5
Puts forward an urban structure and key propositions for a re-imagined Greater Canterbury Road Corridor.

Section 6
Puts forward possibilities for making new public spaces and additional built form considerations.

Section 7
Recommendations

Section 8
Glossary

1.4 Methodology

The key to delivering a 'living corridor' is to integrate urban structure, infrastructure and amenity.

The methodology employed has focused on developing a framework to ensure density and scale is calibrated to location and amenity. This aims to ensure that there is generally a diminishing intensity away from dense centres to sparser edges, with higher density concentrated at areas of increased amenity so that more people benefit from the amenity introduced to the locality though an integrated planning strategy.

The methodology has identified existing State and Local Government policies and recent studies in order to:

- Identify and understand the spatial implications of state government growth projections and housing targets for the Canterbury Road corridor;
- Understand the capacity to accommodate growth targets under existing planning controls;
- Identify amenity and capacity constraints of the immediate Canterbury Road environment;
- review a range of recent Development Applications for mixed use and residential redevelopments along Canterbury Road against SEPP 65 provisions and identify any shortcomings of existing planning controls;
- Undertake detailed analysis of existing open space provision and shortfalls against accepted NSW LGA open space provision benchmarks and identify implications for urban renewal in the corridor;
- Undertake an assessment of the existing street and pedestrian network in relation to walkability, accessibility to public transport, open space and community facilities;
- Propose ways to remedy identified deficiencies to the existing open space and street, lane and walkway network including recommendations to address identified deficiencies; and
- Propose ways to deliver responsive and innovative architecture located to deliver complete neighbourhood structure with the right scale, density, diversity and amenity as well as an exemplary public realm.

2.0 *policy context overview*

A number of background studies and policy settings have informed the proposed urban design strategy and propositions as detailed in Sections 5 and 6 of this report.

The current policy settings support Canterbury Road continuing as an urban renewal corridor. This urban renewal needs to have regard to:

- Housing demand across the Canterbury LGA sub-market and growth in the existing centres along the Sydenham to Bankstown Corridor;
- The need to protect existing employment precincts and the role of Canterbury Road as an enterprise corridor; and
- The provision of adequate open space and social infrastructure to ensure that it meets current and future needs in the context of significant residential intensification.

The following policy documents were considered:

2.1 *state policy*

a. Draft South District Plan – Greater Sydney Commission, (2016)

Identifies a target of 23,250 new dwellings to 2021 and 83,500 by 2036. For the Canterbury-Bankstown LGA a target of 13,250 by 2021 is proposed.

b. Draft Sydenham to Bankstown Urban Renewal Corridor Strategy, Department of Planning and Environment, (2015)

The draft strategy is based on a detailed land use and infrastructure analysis for each of the station precincts along the Banstown rail line including Punchbowl, Wiley Park, Lakemba, Belmore, Campsie, Canterbury and Hurlstone Park. A built form and land use plan is included in the draft strategy with high rise mixed use and higher density residential development within a 400m walking catchment. The Canterbury Road frontage is shown almost entirely as mixed use enterprise corridor.

From Sydenham to Bankstown the strategy projects and increase of 15,940 (11,132 in Canterbury sub-market) by 2026 and 36,140 (24,521 in Canterbury LGA sub-market) by 2036. Campsie receives the greatest share almost doubling number of dwellings from 2011 to 2036 and 40% increase in jobs. Overall there is an increase of 10,000 jobs (4,500 in Canterbury LGA).

c. Local Government Area Open Space Guidelines, Department of Planning and Environment, (2010)

The State Government's Recreation and Open Space Planning Guidelines for Local Government (Department of Planning, 2010) provide the following standards for open space planning in NSW:

- 9% of site area local and district open space
- 15% of site area local, district and regional open space provision.

2.2 *local policy*

a. Canterbury Residential Development Strategy (2013)
The strategy identifies opportunities for accommodating dwelling growth, including Canterbury Road. It identifies areas with greater accessibility to railway stations as key. The strategy quantifies development capacity under existing planning controls to ensure that a range of housing types is capable of being provided. Overall the former Canterbury LGA has a theoretical capacity for a further 28,000 dwellings. At the time there was only 2000 dwellings capacity along Canterbury Road.

b. Towards 2032 – City of Canterbury Economic Development and Employment Strategy (2009)
Prepared by SGS the strategy put forward recommendations for a range of employment centres and zones that were mainly focused on protecting existing employment precincts as valuable locations for employment.

Canterbury Road was identified as being reasonable location for residential growth, however existing employment precincts were identified for business growth and it generally recommended bulky good/showroom use to capitalize on exposure without the adverse impacts that residential developments can have on industrial business.

c. Draft Canterbury Open Space Strategy, Canterbury Bankstown City Council, (2016)
The draft strategy was exhibited in November 2016. It proposes a 10 year strategy to guide future provision, development and management of open space across the former Canterbury LGA.

The strategy identifies a critical lack of open space across the former Canterbury LGA and in particular across significant areas of land where residential intensification is proposed between the Bankstown rail line and Canterbury Road and to the south of Canterbury Road. Potential sites for targeted land acquisition were identified along with minor enhancement areas.

d. Draft Canterbury Road Master Plan, Canterbury Municipal Council, (2010)
The draft Master Plan was originally prepared in 2003 and revised in 2010. It was comprehensive in its approach to the integration of the arterial road function of Canterbury Road with an urban design strategy that emphasized walkability, access, an active and attractive public domain and public transport enhancements. The plan promoted Canterbury Road as a place for public life and the structure plan proposed a series of mixed use centres at the junction of Canterbury Road and major streets, with Canterbury Town Centre having primacy.

e. Draft Canterbury Community and Cultural Facilities Strategy, (2016)
This draft Strategy is a companion to the Open Space Strategy and focuses on the provision and distribution of social infrastructure and compares this with a range of benchmarks, provision standards and population projections in order to quantify need.

The work has found that the Canterbury LGA and the Canterbury Road corridor has significant deficiency in quantity, quality and type of social infrastructure.

As with increasing open space provision there is a significant challenge for Council to develop and implement a funding strategy to enhance social infrastructure.

f. Draft Canterbury Road Economic Analysis Draft Report 1 (SGS February 2017)
SGS is currently undertaking an economic analysis of the Canterbury Road corridor as an input to a revised long term vision for the corridor. The study identifies:

- The demand for dwellings and viability for residential and mixed use development in the corridor;
- The appropriate volume, type, location and composition of retail/commercial uses now and in the future;
- The development potential under current planning controls; and
- Any changes to planning vision or controls in light of this study.

Preliminary findings of this work to date include a need to:

- Encourage and accommodate a greater number of ‘missing middle’ housing types in or in proximity to the Canterbury Road corridor;
- Identify centres along the corridor that are suitable for residential intensification in association with newly created open space and retail centres;
- Provide for and facilitate mixed use development in association with bulky goods and showroom;
- Ensure residential doesn’t compromise future light industrial development along the corridor; and
- Concentrate office floorspace within the Canterbury Town Centre adjacent the future Metro Station

2.3 *summary: key considerations*

The Canterbury Road corridor is an integral part of the Sydenham to Bankstown Urban Renewal Corridor. The following key considerations are taken from the above State and Local policy settings:

Housing

- The State Government's draft South District Plan and draft Sydenham to Bankstown Urban Renewal Corridor Strategy propose ambitious targets for the Canterbury-Bankstown LGA - 13,250 new dwellings by 2021 and 24,521 by 2036 and 40% (4,500) increase in jobs;
- There is unmet demand and need for 'missing middle' housing types within theCanterbury Road corridor;
- Current zoning and controls provide a capacity for 11,690 new dwellings in the Canterbury LGA sub market. When excluding existing 3 storey walk-ups there is reduced capacity for only 6,860 new dwellings;
- Therefore current zoning provides for only 24% of targeted new dwellings;
- There is a need to provide for significant new capacity over and above current controls to approach proposed housing targets.

Centres and retail

- Part of the orderly development of the corridor is to identify centres along the corridor that are suitable for residential intensification in association with newly created open space and retail centres
- There is potential for new mixed centres on or adjacent to Canterbury Road but for these centres to be successful the retail should preferably be anchored by a supermarket
- While retail dispersed along the corridor will struggle; bulky good retail and showrooms are viable and should be encouraged along the length of Canterbury Road

Employment and jobs

- There is a need to protect existing employment precincts and the role of Canterbury Road as an enterprise corridor;
- Provide for and facilitate mixed use development in association with bulky goods and show room;
- Ensure residential doesn't compromise future light industrial development along the corridor; and
- Concentrate office floorspace within the Canterbury Town Centre adjacent the future Metro Station

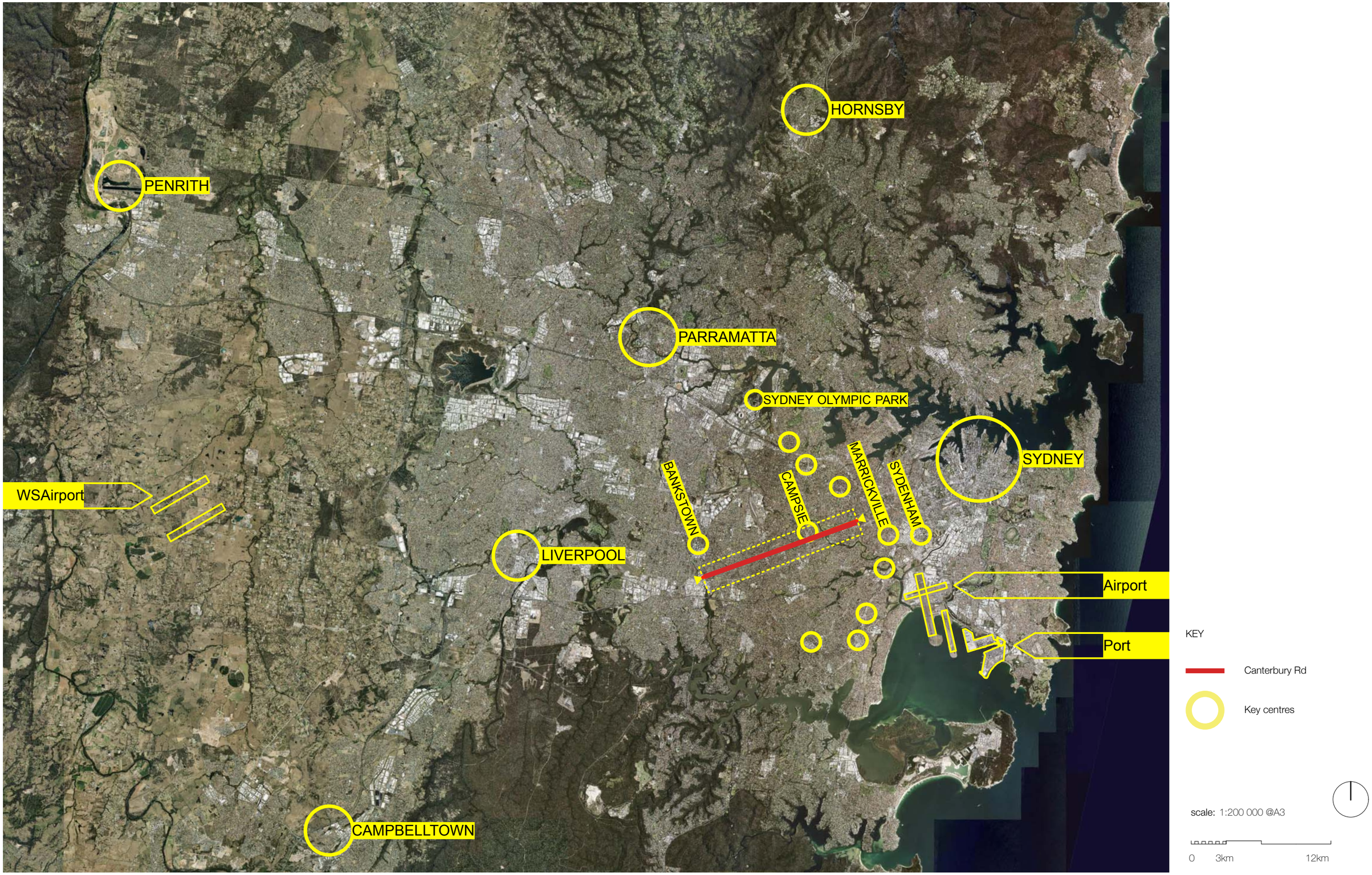
Open space and social infrastructure

- There is an urgent need to address the significant open space and social infrastructure deficit in concert with urban renewal and the proposed residential intensification in the corridor;

3.0

canterbury road corridor

existing environment analysis



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3.1

Location in Sydney Metropolitan

Canterbury Road is centrally located within Sydney's urban footprint, situated between Sydney and Liverpool, Sydney Olympic Park and the existing port facilities.

Together with Parramatta Road and the Princes Highway, Canterbury Road is one of the principal radiating commercial corridors for bulky goods and mixed commercial uses

The Canterbury Road corridor spans 8.6 kilometres from Hurlstone Park to Punchbowl. It forms the southern boundary of the Sydenham to Bankstown Corridor.

Recently, all such corridors are seeing major construction of mixed use and higher density residential redevelopments which means that their character, functionality, transport and amenity needs to be considered afresh.

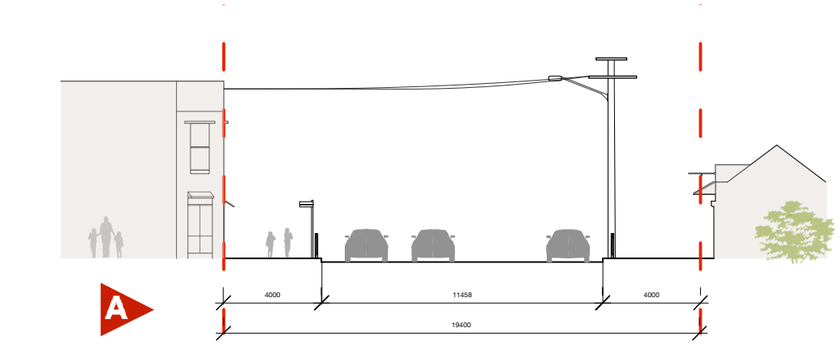
3.1 key attributes

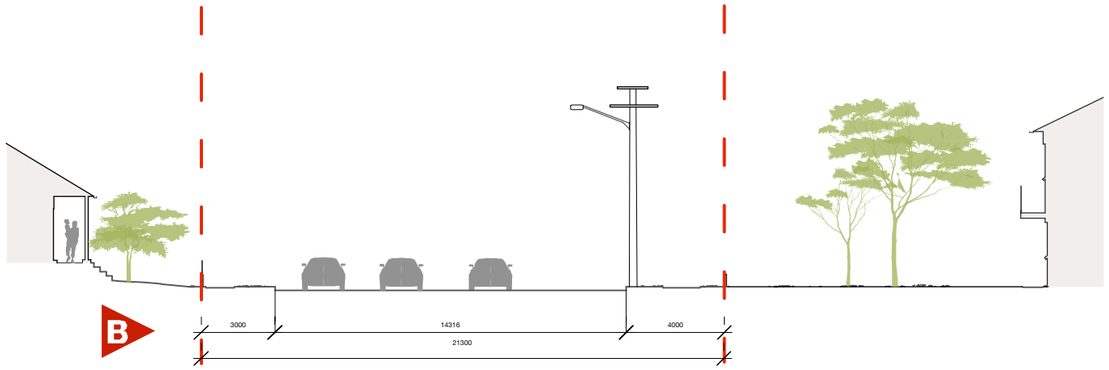


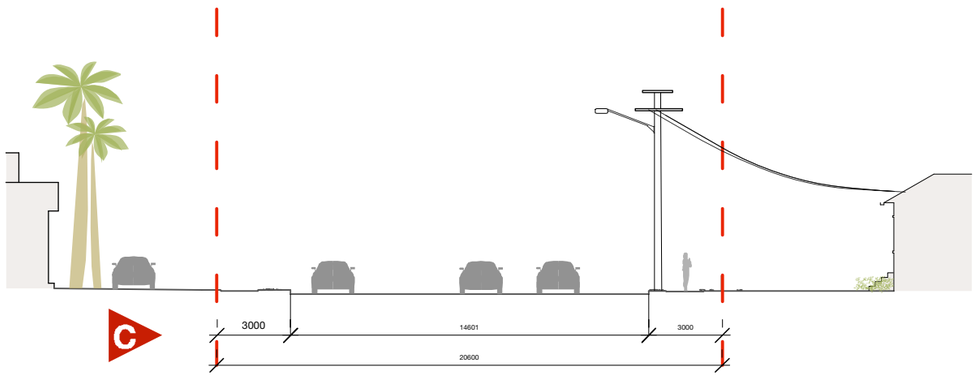
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3.2 existing character of canterbury road corridor













scale: 1:250 @A3

0 2.5m 10m

3.2 *existing character canterbury road corridor*

WEST



EAST



CENTRAL



Local Situation Central + West

WEST

The west end of the study area west of King Georges Road, is proximate to Punchbowl.

Key attributes :

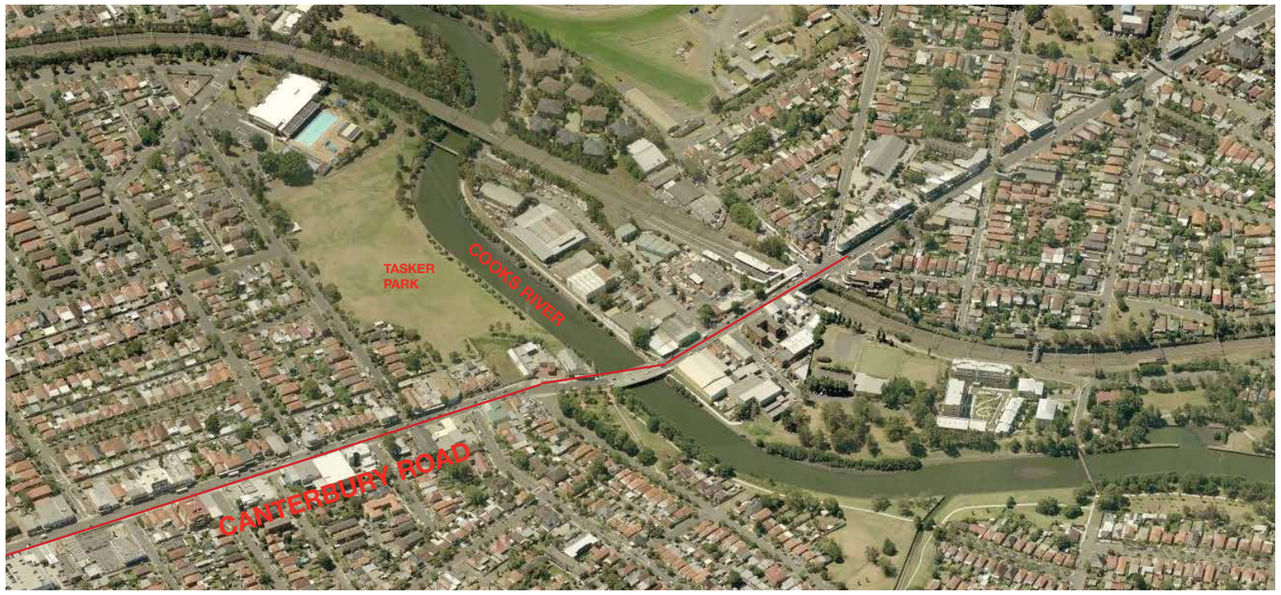
- Comparatively low lying, affected by several storm water channels
- One large park - Punchbowl Park
- Few local parks
- Punchbowl Public School, otherwise few community facilities on Canterbury Road and locally
- No street tree planting presenting an environment with poor amenity for pedestrians and future mixed use development fronting the road

CENTRAL

The central part of the study between Canterbury Hospital and King Georges Road is proximate to Belmore, Lakemba and Wiley Park

Key attributes :

- Most elevated portion.
- One large park - Wiley Park
- High point + three flood affected parks
- A grouping of four local parks near Dennis Street
- Belmore South Public School, otherwise few community facilities on Canterbury Road and locally.
- No street tree planting presenting an environment with poor amenity for pedestrians and future mixed use development fronting the road
- Generally low scale built form set back from the street edge







Eastern Canterbury Road Character & Development

EAST

This study of the lots fronting Canterbury Road also considers the planning framework of the Sydenham to Bankstown Urban Renewal Corridor

The corridor has significant deficiencies in open space, community facilities and access to natural areas.

The east end of the study is under the most intense development pressure and has distinct character areas :

1.Canterbury Hospital to Cooks River, proximate to Beamish Street and Campsie;
2. Canterbury and Cooks River flood plain;
3. Cooks River to Hurstone Park; and
4. New Canterbury Road.

Key attributes:

- Higher concentration of local parks east of Cooks River, Tasker Park fronting Cooks River, otherwise few local parks west of Cooks River;
- Highest concentration of community facilities around the Camspie centre otherwise few community facilities on Canterbury Road and locally;
- Older more established street network and building stock; and
- More pronounced street gradient on the east side toward the Cooks River.

Public Transport



Main Street

- 400
- 415
- 450
- 946
- 490
- 487
- 942
- 941
- 944

Local Street

- 412
- 945
- 940

- 400m radii approx 5 minute walk
- 800m radii approx 10 minute walk
- Future Metro Line
- East Hills Line and Airport Line
- Light Rail

scale: 1:30 000 @A3

0 300m 1.2km

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3.3 *Role of Canterbury Road Corridor*

Canterbury Road is also an important corridor that connects a number of inner south west suburbs. The corridor, and the centres within, form the social and economic backbone for the sub-region with the majority of commercial and retail uses concentrated along the spine and the adjacent Sydenham to Bankstown corridor.

Canterbury Road forms part of the A34 and is a key east-west arterial corridor in the south west of Sydney. Within the study area (which consists of the former Canterbury Council Local Government Area) the T3 Bankstown Line runs approximately parallel to Canterbury Road at distances of 700 m - 900 m.

The M5 Motorway currently provides the main east-west arterial functionality in south-west Sydney and runs approximately parallel to the south of Canterbury Road. As part of the WestConnex project the M5 will be upgraded to provide twin underground tunnels (of 9 kilometres in length) between Kingsgrove and St Peters. Tunnelling commenced in February 2017 and the project is expected to be completed by 2020.

a) *Current Traffic Conditions*

A separate transport and traffic report is currently being prepared for Council by GHD.
Canterbury Road currently experiences significant levels of traffic congestion (particularly during peak morning and evening periods), leading to longer travel times along the corridor. A number of bus services operate within the study area, which generally serve local centres and function as feeder services to the rail line.

Canterbury Road has a posted speed limit of 60 km/h and typically provides two travel lanes in either direction. Canterbury Road at the western end intersects with Milperra Road / The River Road in Revesby, and passes through the suburbs of Revesby, and Bankstown west of the Canterbury LGA and through the middle of the Canterbury LGA, it intersects with a number of other arterial roads including King Georges Road and Bexley Road.

Canterbury Road crosses over the T3 Bankstown Rail Line near Canterbury Station before linking with the New Canterbury and Old Canterbury Road intersection at Dulwich Hill.
Data from Roads and Maritime Count Stations indicate that Canterbury Road typically carriers around 45,000 vehicles per day.

GHD has undertaken an assessment of the current turning restrictions for intersections along Canterbury Road. The analysis indicates that in order to facilitate efficient road network operation, right turns from and onto Canterbury Road are currently banned at a significant number of locations along the corridor.

b) *Public Transport Provision*

The current public transport system consists of the Bankstown Rail Line, which is proposed to be converted to a high frequency metro servicewith stations at Punchbowl, Wiley Park, Lakemba, Belmore, Campsie and Canterbury. Canterbury Road generally bounds the southern edge of the walking catchment to these stations. Local residents have good access to the City but Canterbury Road is approximately 800m and ridership decreases with distance from the station.

There are approximately 19 bus routes that are associated with Canterbury Road. Most buses perform a feeder role to the local stations or other local destinations. There is no single bus route along the entirety of Canterbury Road. Some parts have no bus routes at all.

c) *Cycleways*

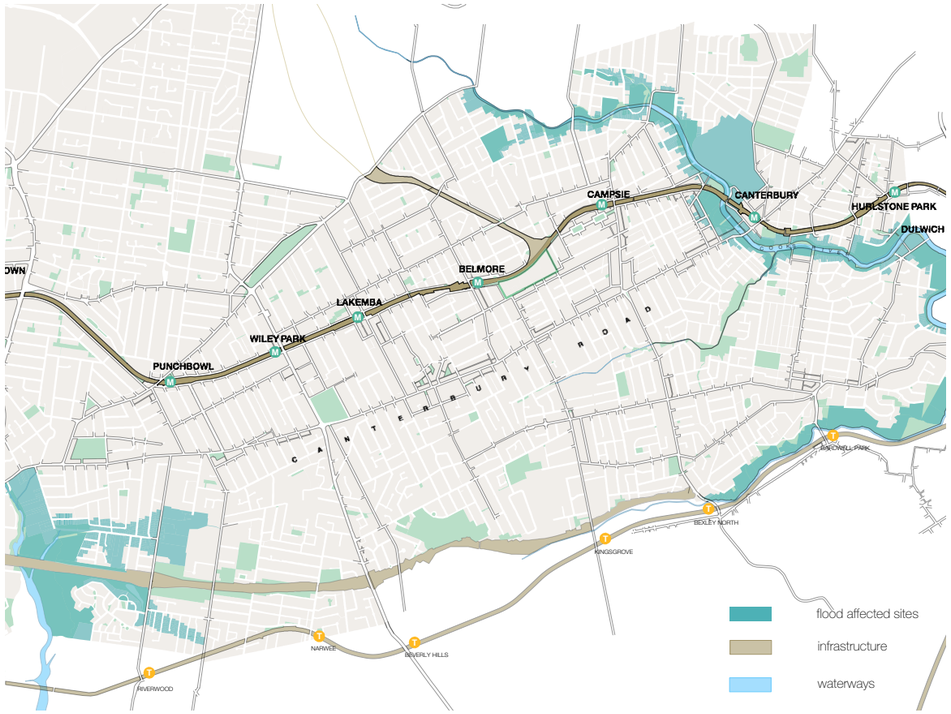
With the exception of the Cooks River the cycleway network is not comprehensive nor is it adequately connected throughout the corridor. The routes are mostly on road either shared or marked and they largely run laterally across the corridor to connect with the railway corridor. There is no cycle route that parallels Canterbury Road or the rail line. Canterbury Road itself has inadequate width to provide a dedicated cycle lane along its length.



3.4 *Topography & Streets*

Canterbury Road generally runs south west to north east along a ridge line before descending gently down to the Cook's River and rising to Hurlestone Park. The topography is gently sloping however it is more pronounced towards the east.

The streets run in a general north west south east direction dissecting and normal too Canterbury Road. The streets form an elongated grid overlaying the gently sloping topography, that emphasizes connectivity to the railway line and the stations along its length. There is a distinctive lack of cross streets that reduces walkability.



3.5 *Storm Water & Flood Affected Sites*

The majority of the Corridor (the central and eastern portion) drains to the Cooks River. The western portion generally drains to Salt Pan Creek. Some areas low lying land adjoining the Cooks River and Salt Pan Creek are flood affected.

Both catchments are heavily urbanized and very little of the storm water system is naturalised. In many cases low points occur on private land and there is evidence of overland flooding encroaching onto private land. Storm water systems are largely piped or are concrete channels. The potential to create 'natural' watercourses would require extensive land acquisition or dedication.

scale: 1:60 000 @A3

0 600m 2.4km

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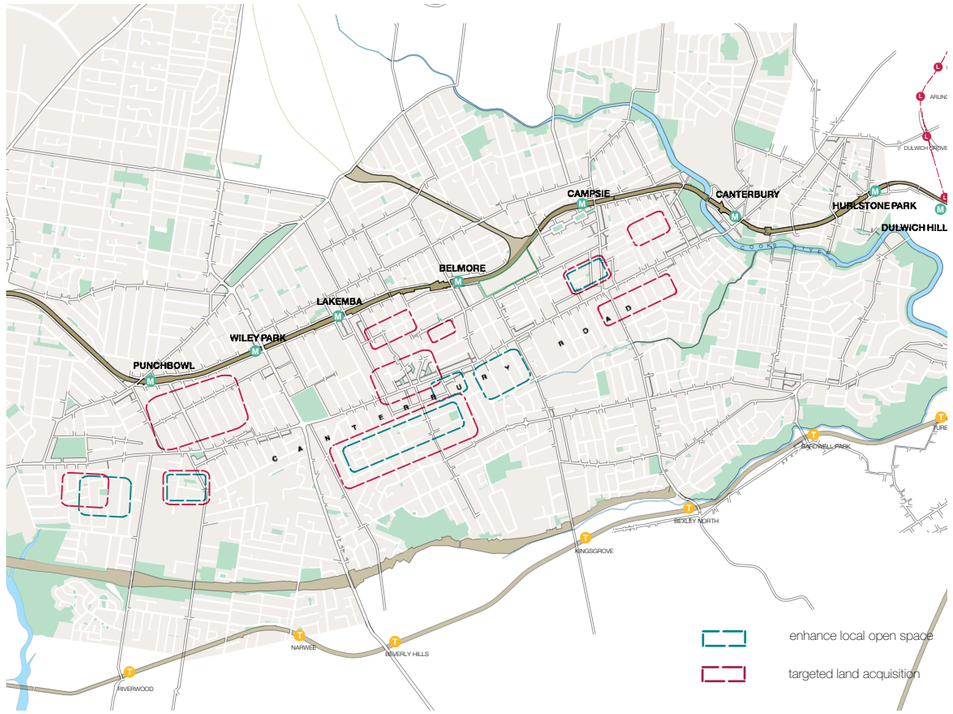


3.6 *Heritage & Historic Subdivision*

The corridor was subdivided and developed from east to west. The eastern portion of the corridor was developed earlier and was largely subdivided and developed in the late 1800s and early 1900s. Hurlestone Park was served by trams.

The larger land holdings in the central and western parts of the corridor were subdivided between the wars and was extensively subdivided and urbanized 1950s and 1960s.

The are very few heritage items within the corridor.



3.7 *Open Space Provision, Distribution & Accessibility*

Within the area between Canterbury Road and the Bankstown Rail Line there is a significant deficit of open space and parks when compared to accepted open space standards. As highlighted in the previous chapter of this report Department of Planning and Environment's provision guidelines for local government recommends:

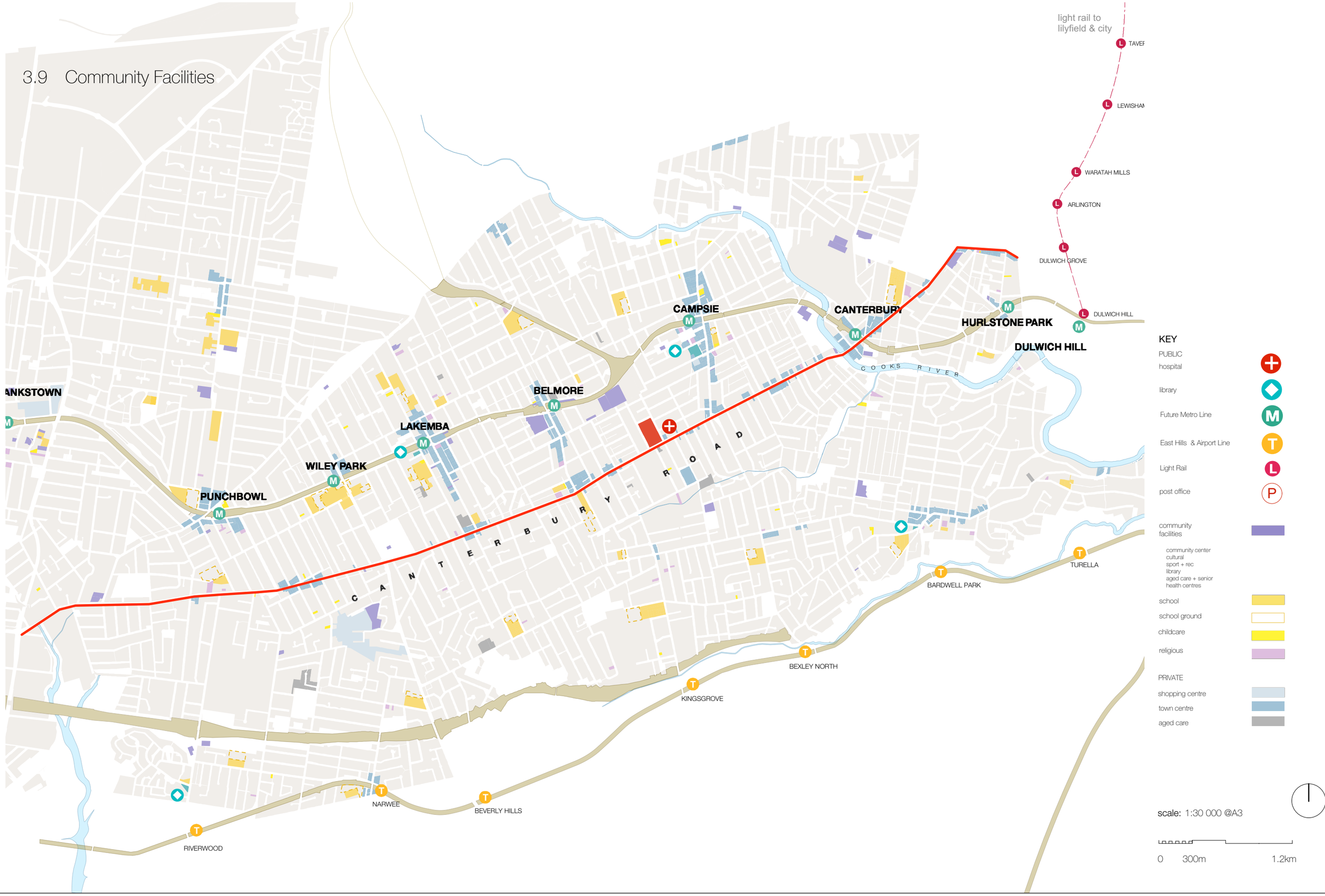
- 9% of an urban area for local and district open space; and
- 15% when regional open space is included.

Between Canterbury Road and the Bankstown Rail Line:

- Local, district and regional open space occupies less than 6% of the urban area; and
- Local and neighbourhood parks occupy 1.6% of the urban area.

This critical shortage of open space was also identified in Canterbury Open Space Strategy (Nov 2016), shown in the drawing opposite. In an area proposed for major urban intensification and increases in residential density represents a major challenge for Council & State Government. Without an urgent program of acquisition of land for open space the corridor is unsuitable for residential intensification.

3.9 Community Facilities



KEY

PUBLIC

hospital

library

Future Metro Line

East Hills & Airport Line

Light Rail

post office

community facilities

- community center
- cultural
- sport + rec
- library
- aged care + senior
- health centres

school

school ground

childcare

religious

PRIVATE

shopping centre

town centre

aged care

scale: 1:30 000 @A3

0 300m 1.2km

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3.8
Suitability for Additional Housing Near Busy Roads

Canterbury Road carries very high volumes of traffic particularly during the morning and afternoon peaks. The type of environment that exists along its length is not ideally suited for residential intensification. There is a need for a major improvement to the quality of this environment to provide an appropriate level of residential amenity. Such improvements need to provide for regular planting of large scale trees and enhanced pedestrian environment which would dramatically transform the environment of Canterbury Road.

Other considerations including site layout, design or other mitigation measures to minimise noise and air quality impacts need to be integrated into the redevelopment schemes.
Rear lanes and shared access ways to car parks need to be an integral part of any comprehensive approach.

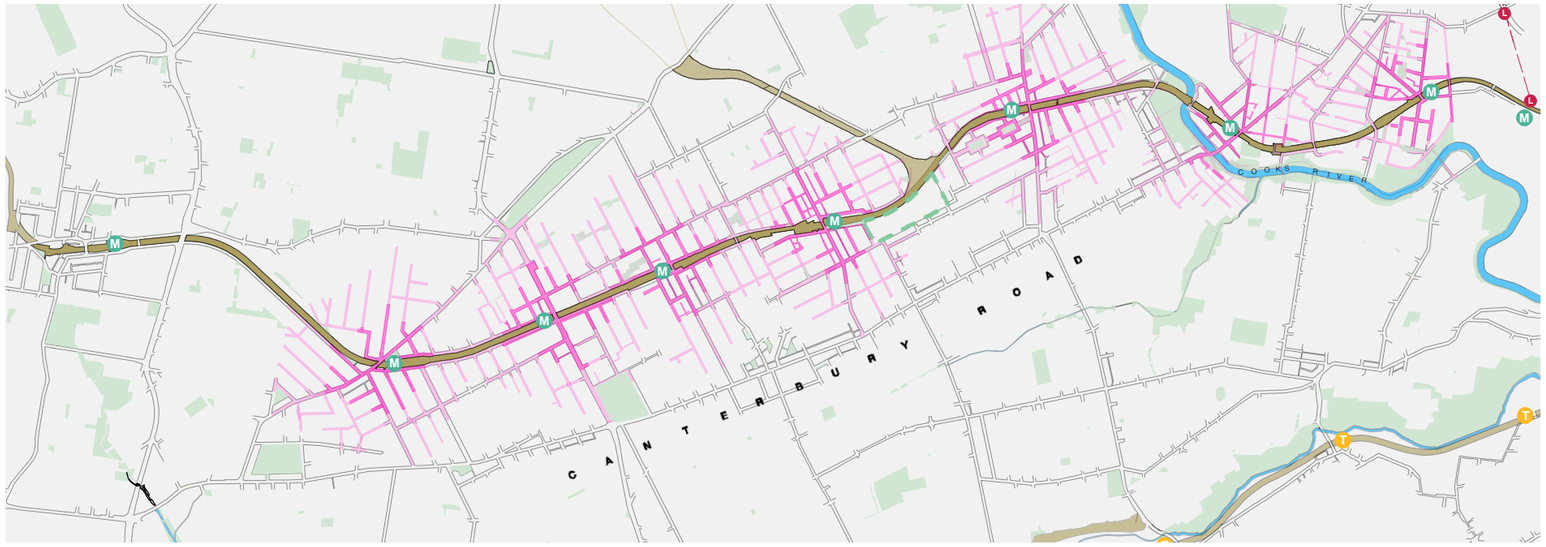
Shops, warehouses and showrooms can often provide a valuable buffer between the busy road and adjacent residential and other noise and air sensitive uses. It is frequently more preferable if residential uses are not carried out along Canterbury Road unless it is part of a development which includes adequate noise and air quality mitigation.

It is important that potential new centres along Canterbury Road are developed in a manner that minimises adverse noise and air pollution while also meeting the other objectives for these centres. A nodal approach with density occurring in depth along cross streets that are normal to Canterbury Road may be a more appropriate development pattern.

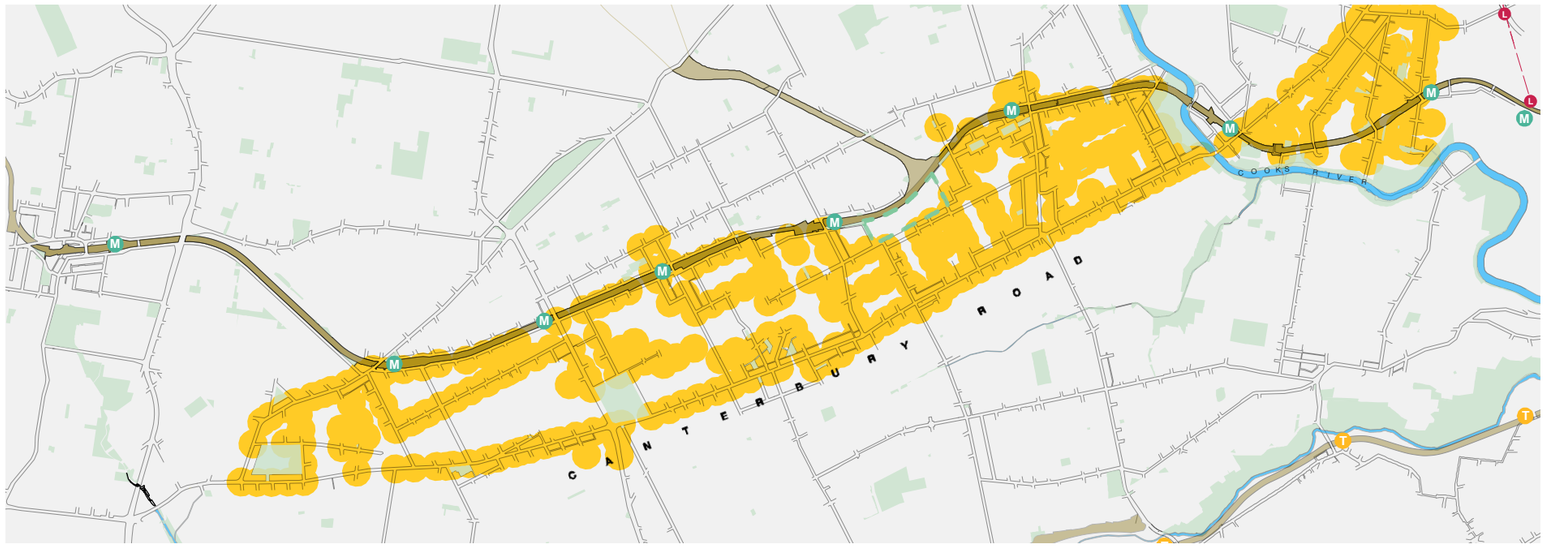
3.9
Community Facilities Distribution

The Canterbury Area Community and Cultural Facilities Strategy (2016) divides Canterbury Road corridor into five segments. It found that there is a significant lack of social infrastructure both in quantitative terms and in type and recommended the development of larger facilities. Finding appropriate locations for larger facilities is a particular challenge for Council.

Walkability of Street Network to Structural Transport



Walkability of Street Network



Walkability to Parks



Access to Parks
200m radius: local
400m radius :neighbourhood
1km radius: district

Walkability
100m radius

Walkability to train statons
400m radius
800m radius

scale: 1:42 000 @A3

0 420m 1.68km

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Walkability of Street Network to Structural Transport

Well connected streets with blocks up to 180m long and streets mostly beside rail corridors optimise access to structural public transport.

Canterbury Road is mostly just within station walkability to the Sydneham Bankstown line (up to 1km), but not to the East Hills line, which is located several kilometres to the south

Walkability of Street Network

Canterbury Road has many cross streets at frequent intervals,which means it is very accessible to adjoining areas.

Blocks less than 200m long are shown saturated yellow (100m radius walking circles, positioned at all intersections offering walking choices)

Pooly connected areas are shown in off white.

Blocks less than 200m long encourage walking locally by offering walking choice, and encourage choosing healthy alternatives to car use

Walkability to Parks

Canterbury Road and its hinterland lacks both open space and a well distributed network of local parks.

Regional and district parks are shown with a larger walking catchment (light green) than local parks (bright green).

Areas with good access to local parks are shown bright green
Areas poorly served with local parks are shown off white and light green.

3.10 *Walkability & Access to Public Transport*

The Canterbury Road corridor lacks an adequate distribution of parks that are easy to walk to. There are extensive areas that have extremely poor access to parks, particularly local neighbourhood parks.

The local street patterns run in a general north west south east direction crossing Canterbury Road. The streets form an elongated grid that emphasizes connectivity to the railway line and the stations along its length. However, many urban blocks are longer than 300m and there is very limited east west connectivity. This distinctive lack of cross streets significantly reduces walkability. This is particularly apparent in the central and western part of the corridor. Blocks longer than 200m without mid block connections do not encourage walking and promote car use.

There is potential for a network of lane ways beside Canterbury Road which is an RMS road*:
- To provide an alternative to the RMS;
  road for site servicing and vehicle access
- To provide additional frontage for building servicing, removalists, rubbish bins;
  vehicle access,fire hydrant booster valves, electrical
  substations and the like;
- To Increase scope for local walkability; and
- To Increase scope for surface storm water treatments.

Accepted open space standards (DoPE, 2010) :
- 9% of urban area for local and district open space;
- 15% of urban area including regional open space;

Between Canterbury Road and the rail line :
- Parks occupy 5.9% of the urban area;
- Local and neighbourhood parks occupy less than 1.6% of the urban area;

Providing these additional local parks, (shown on 4.1,4.7, 4.8, 5.2, 5.3, 6.1 + 6.2) would raise this by 1.5% to 3.1%, however in spite of these spaces the corridor will remain under supplied.

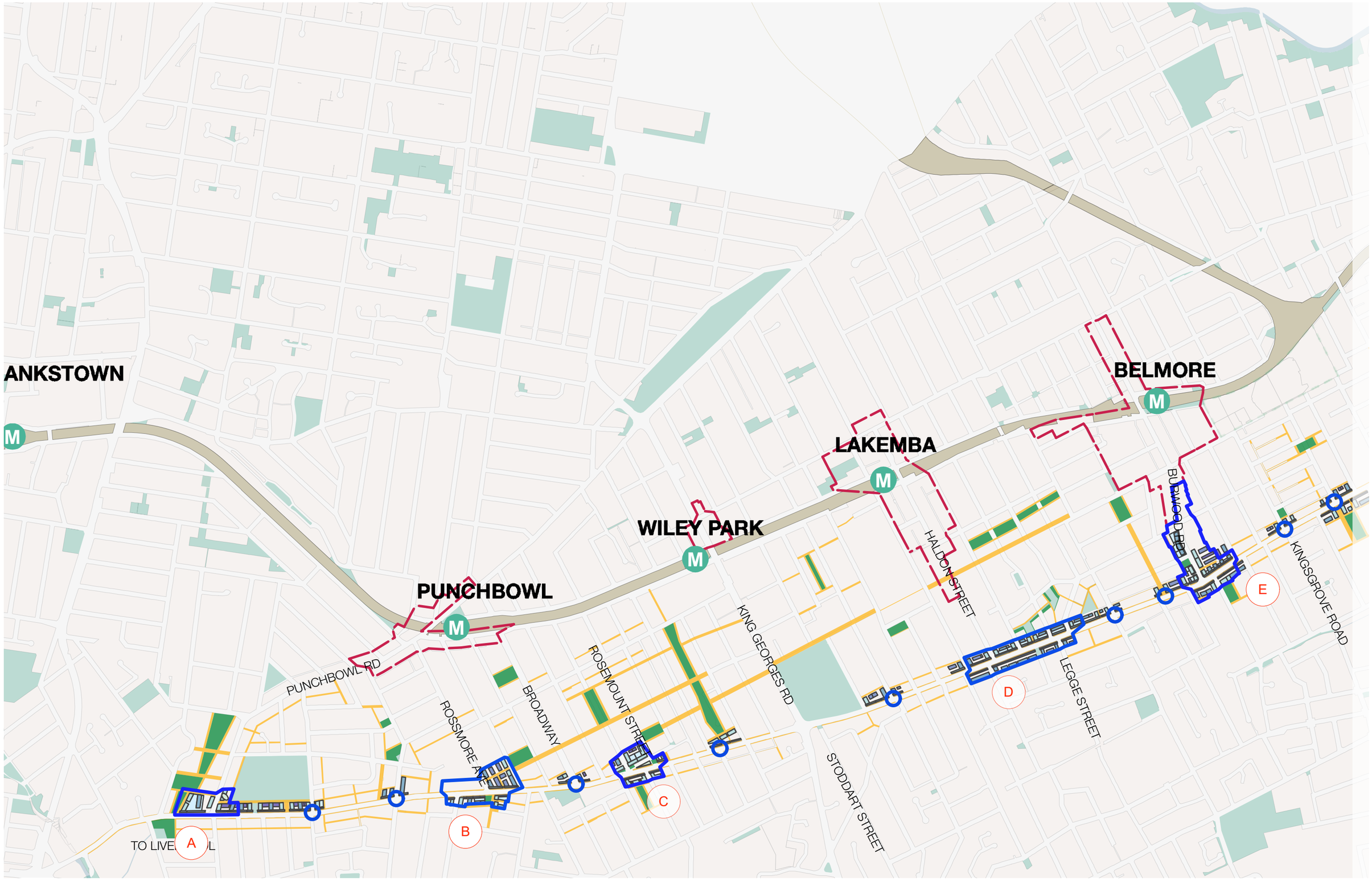
3.11

summary: key findings

1. Canterbury Road is one of the principal radiating commercial corridors for bulky goods and mixed commercial uses.
2. Canterbury Road is also an arterial corridor that connects a number of inner south west suburb and forms the social and economic backbone for the sub-region with the majority of commercial and retail uses concentrated along this spine and the adjacent Sydenham to Bankstown corridor, thus is an RMS arterial road.
3. The current public transport system consists of the Bankstown Rail Line (proposed metro). Canterbury Road generally bounds the southern edge of the walking catchment to the stations along the line. Local residents have good access to direct transport to the City where Canterbury Road is being an average of 800m from the line.
4. Bus routes associated with Canterbury Road perform a feeder role to the local stations. There is no single bus route along the entirety of Canterbury Road. This presents opportunities to create more direct bus routes and connect Canterbury road at key centres.
5. The cycleway network is not comprehensive nor is it adequately connected throughout the corridor. The routes are mostly on road either shared or marked and they largely run laterally across the corridor to connect with the railway corridor. There is no cycle route that parallels Canterbury Road or the rail line, however there remains potential to link the development of the metro alongside a new linear park and cycleway.
6. Canterbury Road's traffic function dominates the physical nature of the corridor where its 2x2 traffic lanes accommodates traffic more like a highway.
7. No street tree planting presenting an environment with poor amenity for pedestrians and future mixed use development fronting the road.
8. Canterbury Road generally runs south west to north east along a ridge line before descending gently down to the Cooks River and rising to Hurlstone Park.
9. The streets run in a general north west south east direction that run perpendicular to Canterbury Road. They form an elongated grid that emphasizes connectivity to the railway line and the stations along its length. There is a distinctive lack of cross streets that reduces walkability in urban blocks from Rossmore Avenue to King George's Road.
10. The majority of the Corridor (the central and eastern portion) drains to the Cook's Riverr. The western portion generally drains to Salt Pan Creek. Low lying land adjoining the Cookes River and Salt Pan Creek are flood affected.
11. Both catchments are heavily urbanized and very little of the storm water system are naturalised. Storm water systems are largely piped or are concrete channels. The potential to create 'natural' watercourses will require extensive land acquisition or dedication.
12. The are very few heritage items within the corridor
13. There is a significant and critical deficit of open space and parks and poor distribution of parks in an area proposed for major urban intensification and increases in residential density
14. Without an urgent program of acquisition of land for open space the corridor is unsuitable for residential intensification.
15. The local street pattern lacks cross streets that severely limits walkability, particularly to local parks.
16. Canterbury Road carries very high volumes of traffic particularly during the morning and afternoon peaks and is not ideally suited for residential intensification.
17. There is a need for a major commitment to planting large scale trees to enhance pedestrian environment and to transform the environment of Canterbury Road.
18. Rear lanes and shared access ways to car parks need to be an integral part of any comprehensive approach.
19. Shops, warehouses and showrooms can often provide a valuable buffer between the busy road and adjacent residential and other noise and air sensitive uses.
20. It is important that potential new centres along Canterbury Road are developed in a manner that minimises adverse noise and air pollution while also meeting the other objectives for these centres. A nodal approach with density occurring in depth along cross streets that are normal to Canterbury Road may be a more appropriate development pattern.

4.0

re casting canterbury road

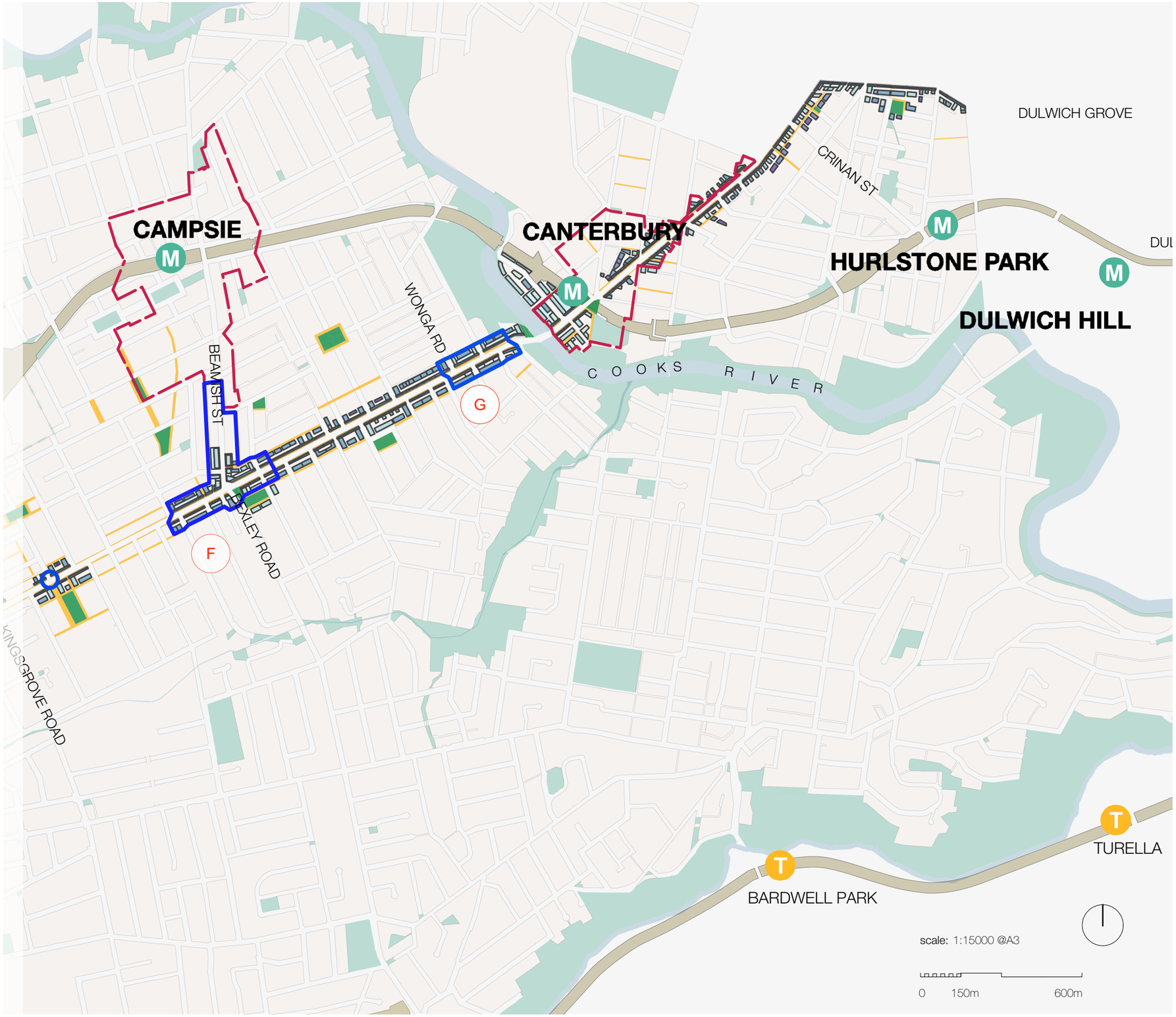


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4.1

canterbury road corridor plan



New streets

New parks

Indicative Built Form

Sydenham to Bankstown Urban Renewal Corridor

Main street & Mixed Use

Localities

Centres

CENTRES

New and existing centres would focus activity

- A @ PUNCHBOWL RD District
- B @ ROSSMORE AVENUE Local
- C @ ROSEMONT STREET District
- D @ HALDON STREET - Local
- E @ BURWOOD ROAD Neighbourhood
- F @ BEAMISH STREET Regional
- G @ CANTERBURY Regional

Built Form

The built form proposed for Canterbury Road will be focused at the identified Centres. Additional built form is anticipated to reinforce connective streets critical to linking Canterbury Road to its hinterland to the north. Built form would be focused on making the centres initially.

The height and separations of the built form demonstrated reconcile the requirements of SEPP 65 and the Apartment Design Guide with amenity in public spaces.

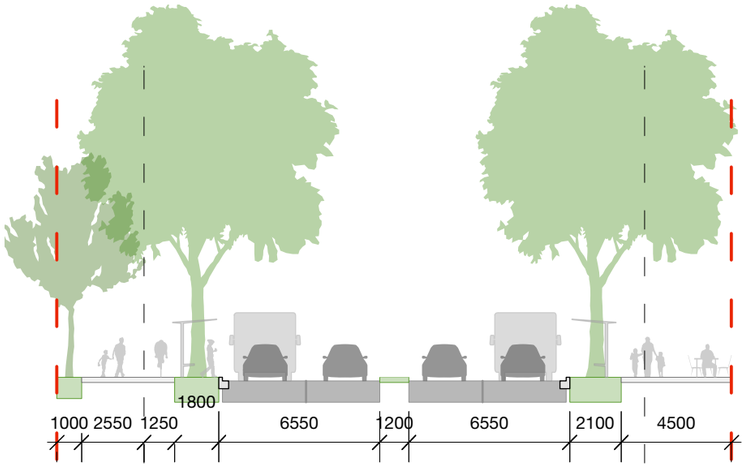
These built form groupings strategically reinforce the Green Grid, park connecting streets and cycle streets a are elaborated in Section 5- Greater Canterbury Road Corridor - Possibilities for City Making.

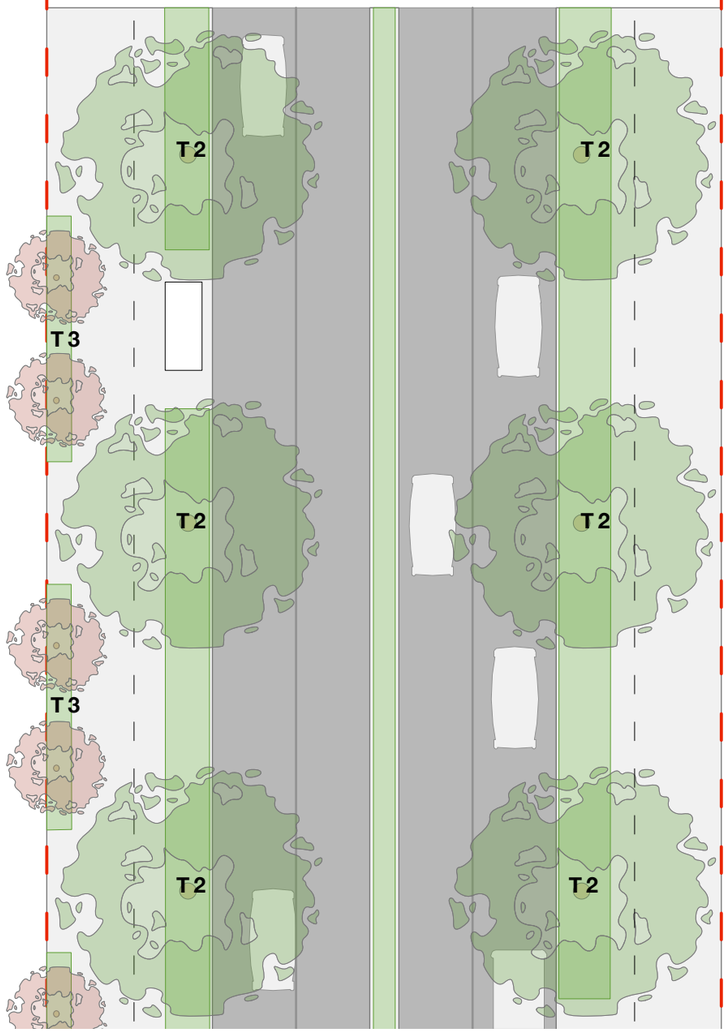
Street Sections

The street sections which follow suggest and demonstrate a variety of ways of using street more effectively. A robust and durable material palette, with significant tree plantings of varied character are suggested.









STREET TYPE

A1

RE IMAGINING CANTERBURY ROAD BETWEEN CENTRES

4.2a

canterbury road dominant condition

1. Retain existing kerb lines

2. Underground existing power lines

3. Public dedication by re-developed sites to widen Canterbury Road

4. Set back buildings to add street trees

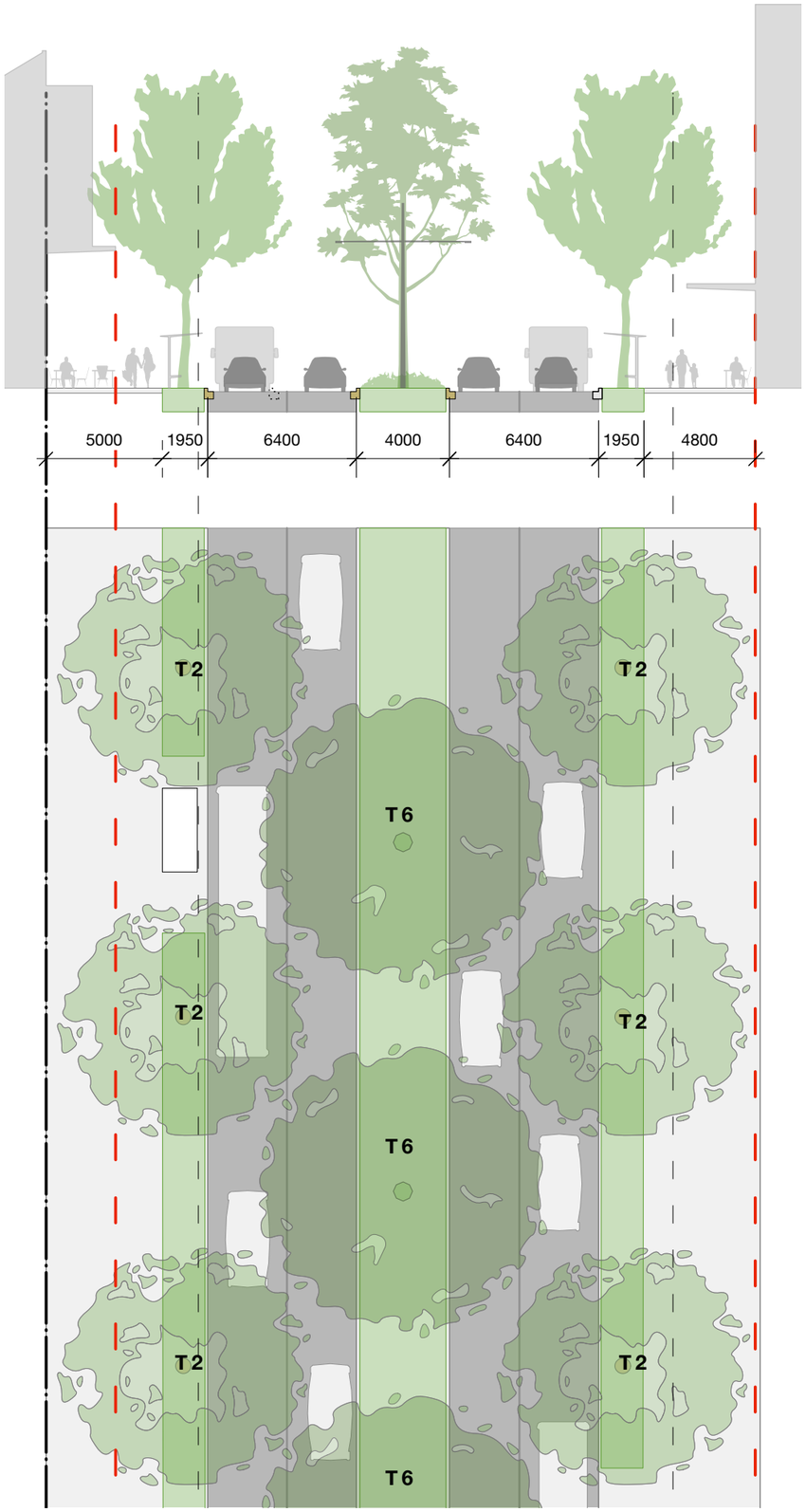
5. Plant large urban trees in the verge and setbacks

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STREET TYPE

A2

RE IMAGINING CANTERBURY ROAD AT CENTRES

4.2b

canterbury road at three main centres

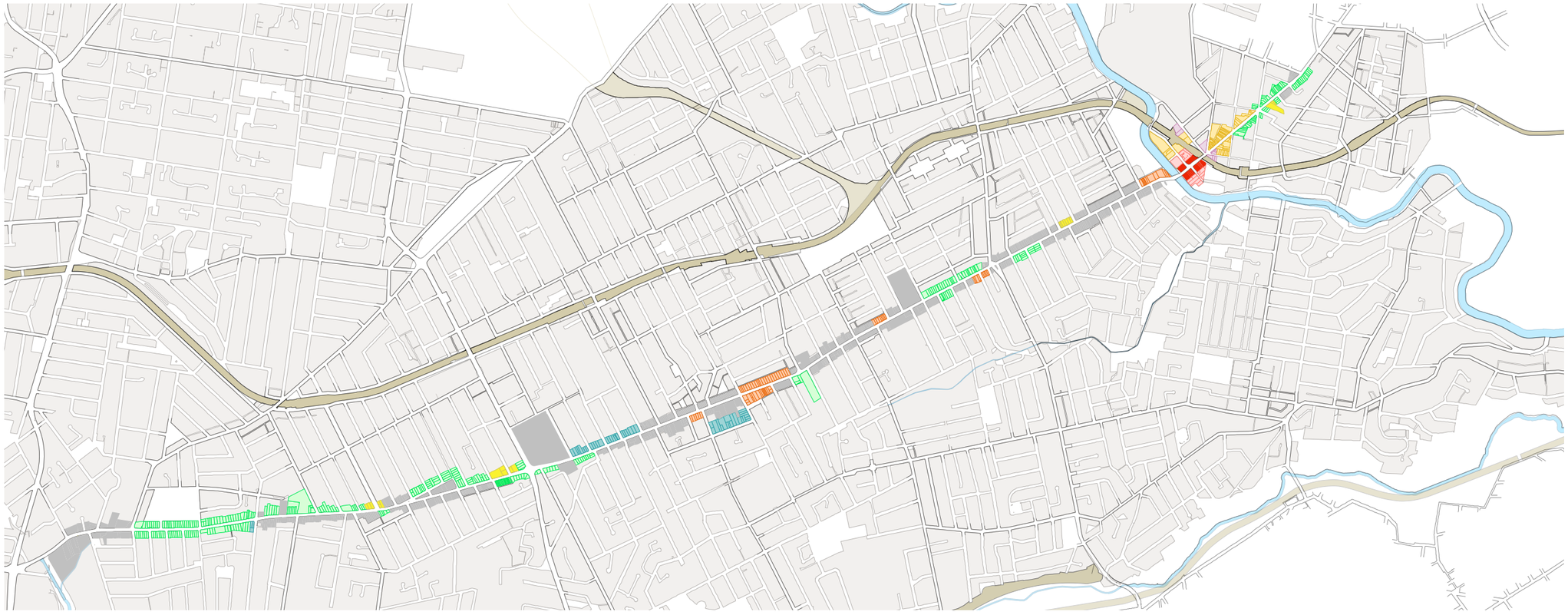
1. Retain existing north kerb lines

2. Introduce medians locally to accommodate turning lanes and trees

3. Underground or bundle existing power lines

4. Public dedication by re-developed sites to widen Canterbury Road

5. Plant major street trees for amenity



4.3
Existing Controls

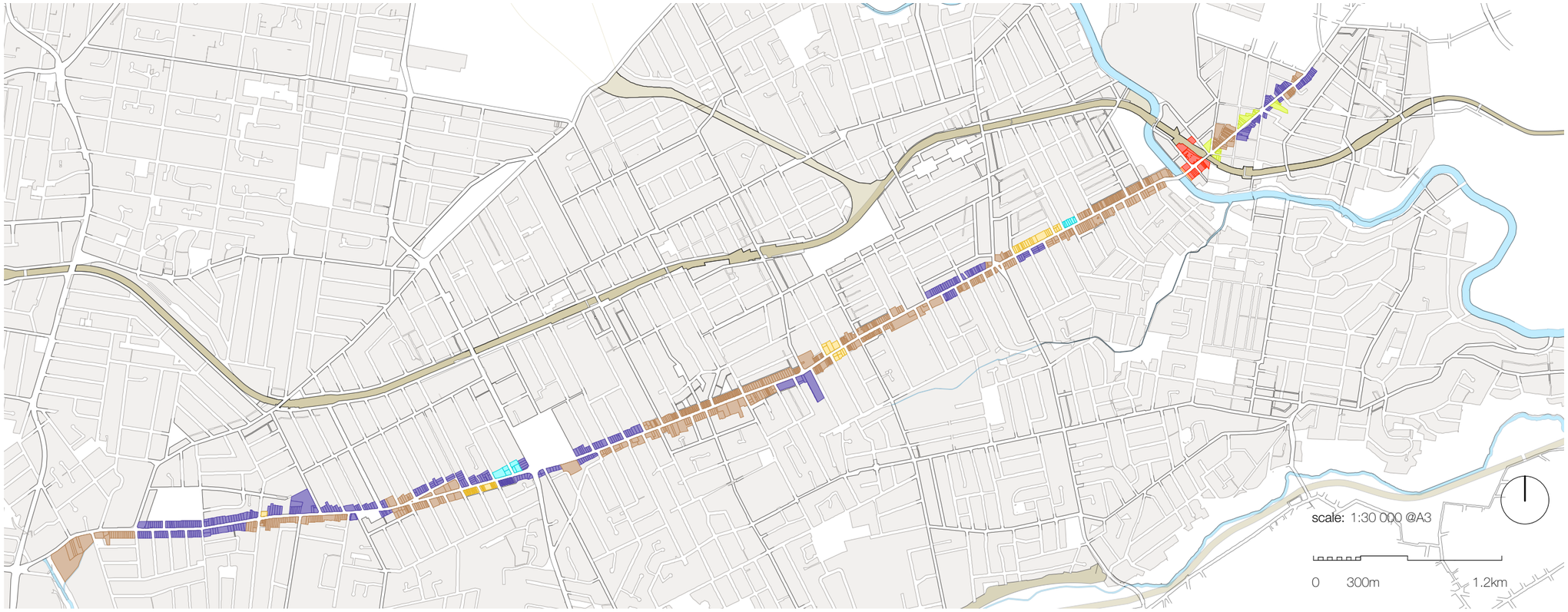
CR FSR

as per Canterbury Local Environmental Plan 2012

- NO FSR
- D 0.5:1
- I 0.75:1
- L 0.9:1
- S2 1.6:1
- T2 2.0:1
- U1 2.5:1
- U2 2.75
- V 3:1
- water ways

hill thalis
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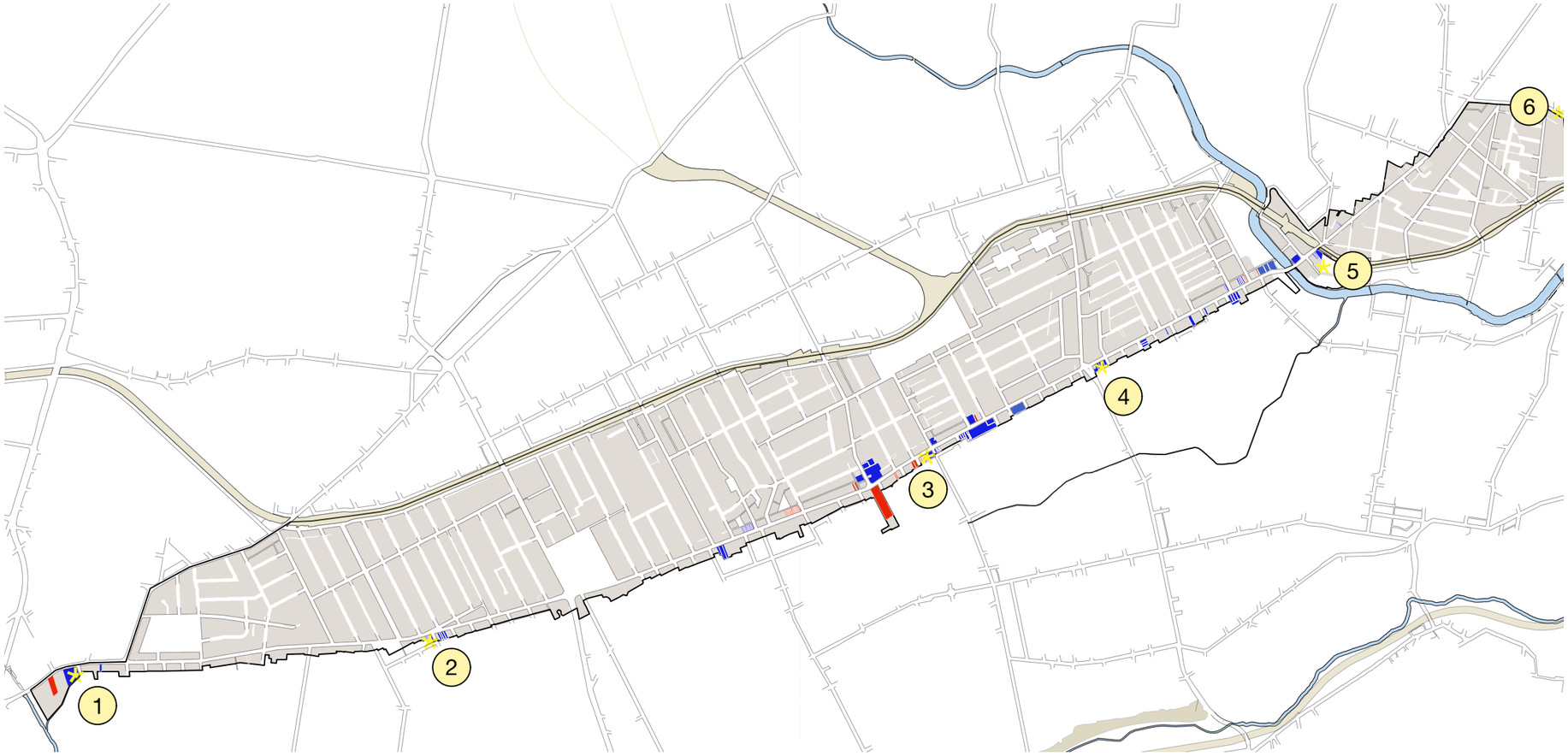
CR Height Limit

as per Canterbury Local Environmental Plan 2012

- I 8.5
- L1 11
- L2 11.5
- M 12
- N2 14
- P 18
- T 27
- water ways

The controls read as existing uses and various historic changes over time rather than a strategic approach to Canterbury Road.

4.4 *Analysis of Nominated DAs*



KEY

- key streets
- infrastructure
- waterways
- contested
- approved

REPRESENTATIVE DAs

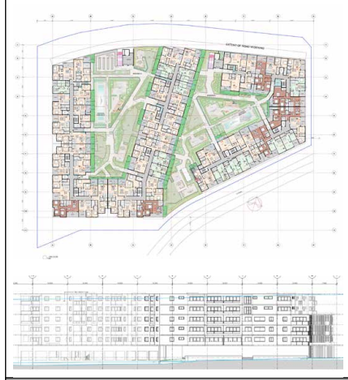
1. 1600-1602 Canterbury Road Punchbowl 13120 m2
2. 1258-1260 Canterbury Road Roselands 444m2
3. 630 Canterbury Road Belmore 1031.8m2
4. 424-426 Canterbury Road Campsie 1980.5m2
5. 220-222 Canterbury Road Canterbury 1618.13m2
6. 570 - 574 New Canterbury Road Hurstone Park

scale: 1:25000 @A3

0 250 m 1 km

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1	2	3	4	5	6	
						*based on Hill Thalis calculations

1600 - 1602 Canterbury Road Punchbowl	**1258 - 1260 Canterbury Road Roselands**	**630 Canterbury Road Belmore**	**424 - 426 Canterbury Road Campsie**	**220 - 222 Canterbury Road Canterbury**	**570 - 574 New Canterbury Road Hurlstone Park**	**SITE**
13,120m^2	444m^2	1031.8m^2	1980.5m^2	1618.13m^2	2643m^2	**Site Area**
- | 2.22:1* 0.44:1* + 1.77:1*	- | 2.6:1* 0.26:1* + 2.33:1*	- | 2.63:1 0.35:1* + 2.27:1*	- | 1.75:1* 0.1:1* + 1.6:1*	3:1 & 2.75:1 | 4.3:1 0.4:1* + 3.6:1*	- | 2.25:1* 0.35:1* + 1.89:1*	**Allowable FSR | Proposed Total FSR** Commercial FSR + Residential FSR
18m | 18m	18m | 19.7 + lift overun	18m | 18m	18m | 20.4m	27m & 21m | 27m & 21m	18m | 21.6m + roof feature	**Allowable Height | Proposed Height**
6 storeys	6 storeys	6 storeys	6 storeys	9 storeys	6 storeys	**Number of Storeys**
29,188m^2	1156.8m^2	2719.13m^2	3482m^2	7060m^2	5965m^2	**Total Proposed GFA**
						GROUND FLOOR ACTIVATION
3m (aligned to proposed road widening	3m	3m	3m	approx. 4m at ground (3m above)	0m	**Main Street Setback**
majority retail and commercial frontage + 4 residential cores to Canterbury Road	commercial frontage 7m (74%) + residential entry 2.5m (26%)	commercial frontage 17.6m (65%), fire booster and firestairs 4.6m (17%) and entry foyer 5m (18%)	majority commercial frontage, residential entry 2m + fire escape 1m	commercial + residential entry 10.95m (100%)	commercial frontage 61.2m (79%), substation + firestairs 11.2m (14%) and entry foyer 4.9m (6%)	**Street Frontage %** - Commercial/Residential/Services
5848.7m^2 (20%)	119m^2 (10.2%)	368.3m^2 (13.5%)	242m^2 (6.95%)	749m^2 (10.6%)	950m^2 (15.9%)	**Commercial Area % + m2**
2 large areas - not specified further 5163m^2, 685.7m^2	1	1 large area - not specified further	4 64m^2, 69m^2, 51m^2, 54m^2	5 63m^2, 72m^2, 66m^2, 131m^2, 417m^2	7 4 x 130m^2, 2 x 115m^2, 195m^2	**Number of Commercial Units**
Yes	Yes	Yes	Yes	Yes	Yes	**Rear Lane (Yes/No)**
commercial frontage, driveway for parking, services + waste area, fire exits	driveway for carlift and commercial parking (100%)	loading bay + bicycle parking 7.5m (30%), common open space 11.2m (45%), car park entry ramp 6.4m (25%)	residential units 9.3m (46%), carpark ramp 6m (30%), garbage holding room 4.7m (23%)	residential units 13.6m (100%)	commercial frontage 22.3m (83%), car park entry on Duntroon Lane 4.4m 16%), garbage room + Car Park exit from Garnet Street 4.1m	**Lane Frontage %** - Commercial/Residential/Services
						RESIDENTIAL APARTMENTS
23,334m^2 (80%)	1037.8m^2 (89%)	2350.8m^2 (86%)	3240m^2 (93%)	5870m^2 (83%)	5015m^2 (84%)	**Residential Area % + m2**
297	14	27	50	84	68	**Number of Residential Units**
1 bed = 96 (32.3%) 2 bed = 185 (62.3%) 3 bed = 16 (5.4%)	1 bed = 4 (28.5%) 2 bed = 9 (64%) 3 bed = 1 (7%)	1 bed = 4 (14.8%) 2 bed = 23 (85%) 3 bed = 0 (0%)	1 bed = 21 (42%) 2 bed = 27 (54%) 3 bed = 2 (4%)	1 bed = 29 (34.5%) 2 bed = 55 (65.4%) 3 bed = 0 (0%)	1 bed = 25 (36%) 2 bed = 40 (59%) 3 bed = 3 (4%)	**Mix**
180 (60.6%)	14 (100%)	16 (60%)	35 (70%) (however 7 require mechanical ventilation)	56 (69%)	31 (46%)*	**Number of Cross Ventilated**
225 (75.7%)	10 (71%)	20 (74%)	38 (76%)	60 (71.4%)	57/68 (83%) *	**Number receiving required sun access**
27/514 (5%)*	0/25 (0%)*	16/50 (32%)*	20/81 (24.6%)*	6/139 (4%)*	5/114 (4%)*	**Number of Snorkel Bedrooms**
Amended Plans submitted to Council in July 2016	Response to Council's comments submitted to Council in July 2015	DA Approved 2014. S96 submitted for extra height in April 2016	S96 submitted to Council October 2014	DA Approval March 2016	Built	**Current Status**

4.5 *built form*

The planning controls for the land fronting Canterbury Road permit significant residential density along its length. The current R3 zoning of the land between Canterbury Road and the railway line uniformly permits buildings up to four storeys in height.

Due to the unsuitability of Canterbury Road as continuous corridor flanked by high density housing it is proposed to redistribute the density along Canterbury Road to a series of urban centres (centres) at key cross streets which connect to the train stations to the north and focus urban renewal along these north south streets.

An integrated approach is also proposed where higher density forms of 6-9 storeys are located to enable and overlook the new network of parks and green streets. In this way there is a strong alignment of urban density and amenity which is significantly bolstered by the 'green grid' initiatives. This more nuanced approach to the distribution of density provides for much greater housing diversity and building types than what is currently provided for under the existing planning controls. It also provides a possible mechanism for the delivery of new parks and public domain enhancements through the provision of floor space and height bonuses.

a) Urban Housing:
Historically the former Canterbury Council area has been developed with a limited number of residential types, which are associated with a particular subdivision pattern. These types include:

- Villa or free standing house;
- Pair or semi-attached house;
- Shop top / shop house;
- Row or terrace house;
- Cluster housing; and
- Mainly low rise residential flat buildings.

As society's needs become more complex and diverse, these types need to be expanded to create a greater diversity of housing types.

b) Enduring fabric of a city:
Housing tends to be the enduring fabric of a city, a 100 year life is not unusual. Housing can also account for a large proportion of a city's overall energy consumption, played out over the life of the building.

Housing frames they way we live the detail of our lives, sleeping, eating, bathing, socializing. Well-designed housing, providing outlook, daylight, catches breezes, protects privacy and security and can be delightful through a year's incremental seasonal change.

c) Diverse housing types and 'missing middle' housing:
The initiatives for the greater Canterbury road corridor is proposed to provide a complex density gradient, that correlates with areas of high amenity, and is comprised of diverse housing types and built forms. A variety of built types are identified. These can include hybrid types to contribute further to housing diversity. The housing forms illustrated are consistent with the primary SEPP 65 AP6 requirements with thinner cross sections, building separations, more deep soil landscape areas and the like.

Missing middle* housing bridges the gap between inner-city high-rise apartments and low-density housing on the outer fringes. Medium-density housing is generally more affordable because it requires less land. It is sustainable and if designed well, it can create stronger and healthier communities and contribute to our cities' resilience in the future.

The Corridor will provide for opportunities for lower density housing forms including Torrens titled detached, paired and attached housing, while still facilitating substantial increases in existing housing density. Other types including medium rise apartment buildings and limited high rise 'point' towers particularly overlooking new and existing parks.

Sites with rear lanes provide site servicing and car parking access suited to paired and attached housing. Rear lane vehicle access enables narrower lot width housing types. Two scenarios are shown, one based on existing subdivisions with rear lanes, the other targets the ends of long blocks to include new rear lanes set back 27-36m from the cross street.

d) Potential for more affordable housing:
Some of the physical attributes of housing and design have a direct bearing of affordability. There is potential to provide a greater proportion of more affordable housing by including

- New apartment buildings and mixed maisonette/duplex types without lifts;
- Dwellings can be sold separate to allocated car parking;
- No requirement for on site car parking within 1km of a rail or metro station which also increases the use of public transport; and
- Differentiated housing densities retain more affordable rental housing found in older building stock, including detached houses and walk-up apartments.

e) Ground floor uses

A variety of ground floor uses, brings vibrancy and life to street edges.

- To support the vibrancy of the place encourage alternative ground floor uses: creative arts and light industry

f) Outdoor spaces:

Outdoor spaces bring variety and richness to our home, social and work lives. Outdoor spaces open to the sky, or open on 1, 2 or three sides capture varing natural light and fresh air.
High rates of required on site car parking can compromise the quality of external space and the number and extent of significant tree plantings. There is potential to design one or two external car parks as flexible space, for hardstand play or other uses;

To value the quality and character of outdoor spaces:

- Provide deep soil plantings:
- Provide car parking within the building footprint directly from the street;
- Require driveways to be efficiently designed and of minimum width suited to the number of cars serviced;
- Review the rationale and logic of on site car parking requirements; and
- Consider enforcing a maximum rate of on site car parking instead of a minimum rate;

g) Corner Lots

Corner sites benefit from extended public frontage to access air and light, in comparison to mid block sites. On mid block sites it may become necessary to introduce central courtyards or light-wells to achieve appropriate levels of internal amenity, thereby reducing the site's overall floor space achievable.

As well designed corner buildings add substantially to the character of urban areas we recommend that subject to achieving design quality standards buildings on corner sites benefit from a bonus of 0.5:1 FSR.

h) Small lots (less than 500m2 with 12 metre frontage):

Redevelopment of small sites contributes to maintaining fine building grain, vibrancy and diversity of urban places. Uncoordinated planning requirements penalise and disadvantage development on small sites. Forced amalgamations can be necessitated by requirements for minimum lot area, minimum frontage length and on site parking





Small Lots - Devonshire Street Substation; Surry Hills

high amenity and mixed use development is achievable on small sites

The design of buildings on small lots also has to reconcile a raft of conflicting design considerations

- Servicing the building including lift + stairs, fire egress, fire hydrant booster assembly, garbage bin storage and bicycle parking;
- Achieving adequate flooding free board (when required); and
- Providing active street frontages

We recommend that Council strategically promote small lot redevelopment, being lots less than 12.5m wide and less than 500m2 in area.

- Remove requirements for minimum lot area, minimum frontage lengths, high rates of required on site parking

i) Heritage buildings

Canterbury Road Corridor has several heritage buildings at it east end.

We anticipate that these buildings would change the character of the street pavements, plantings and bust stops in the widened carriageway beside heritage buildings. These exceptions along the recast corridor are opportunities for memorable place based designs.

j) Housing and Noise Barrier Design

Canterbury Road is a source of noise and air pollution and does not provide optimal amenity for housing. Recasting Canterbury Road as a boulevard with significantly sized and closely planted street trees would redress some of these shortcomings. Mixed use buildings with housing above street level is anticipated at centres along Canterbury Road.

The housing would need to incorporate active noise barrier planning including;

- Thin cross section buildings along the street frontage;
- Secondary rooms on the street frontage including common circulation, laundry, bathrooms, kitchens, sun rooms;
- Cross ventilation not dependant on the road frontage; and
- Setback for deep soil

Housing on the north side of the street can more readily back onto Canterbury Road, opening to north sun and shielding lots to the north from its adverse traffic impacts.

k) Design quality

Improving design quality in the design of apartment buildings contributes a broad variety of benefits to communities and our commonwealth, fostering:

- Delight + amenity – making places where people want to live;
- A healthier community - designing in opportunities for physical activity;
- Social diversity - large and small apartments, affordable housing;
- Urban ecology - landscapes and micro climates; and
- Sustainability + the value of resources – including low energy + water use buildings.

Well designed apartments can bring together the best of these attributes.

l) Public Interest and apartment buildings

Apartment buildings are long term building stock and therefore there is a stronger public interest to ensuring high standards of design and environmental performance.

Well located and designed apartment buildings enhance affordable living. It goes beyond the price of a house to engage with expenditure over the life of the building on electricity, gas and water. It also needs to take into account access to employment, education, services and facilities.

The greater Canterbury Road Corridor provides the opportunity for a community which is less reliant on cars, has better public transport connections, where density in the urban environment is well designed and where infrastructure investment supports strategic planning. Future communities would be connected and brought together in a way that enhances liveability, sustainability and productivity. It is critical to ensure that the notion of affordability takes into account the ongoing costs of occupation including energy, transport, adaptability and life span.

There are recent examples of the innovations in designing mass housing such as the Nightingale housing project in Melbourne which demonstrates a new direction in medium-density living, showing how singles, young families and retirees alike can comfortably and sustainably live a rich life in our expanding cities.

The approach eliminates what the market insists are necessary in multi-residential design: car parking, sumptuous materials and finishes, and air conditioning. It is positively reductive, questioning what was really essential to support well-being, community and liveability.

4.6 *reviews and recommendations*

Urban design review of recent mixed use and residential redevelopment DAs

A sample of recent Development Applications and approvals, recent development approvals and completed development projects submitted under Canterbury Local Environment Plan 2012 and Canterbury Development Control Plan 2012 (CDCP 2012) have been reviewed and evaluated against SEPP 65, the Apartment Design Guide (ADA) and best practice approaches to urban renewal along high volume roads and Busy Road Corridor Design Guidelines.

Of approximately 19 Approved DA's for mixed use along Canterbury Road submitted over the previous 5 years, drawings for 6 submissions have been reviewed.
This is summarised on page 45.

We make the following observations:

- Residential FSR's varied from 1.61-3.5:1. We would expect the upper range around 2.23-2.5:1 of residential FSR's to achieve a balance of amenity and solar access for the proposal and its neighbours for street wall building types.
- Commercial Retail FSR's varied from 0.1-0.44:1.
- All of the sites had the benefit of being serviced by rear lanes, with one proposal extending an existing rear lane.
- Compliance with Apartment Design Guide was variable, with most proposals adopting the minimum standards for cross ventilation, not demonstrating solar access, and not providing a variety of apartments with few 3 bedroom apartments being proposed.
- Against the ADG recommendations, 74 snorkel bedrooms* were noted, corresponding to 8% of the bedrooms. Only one proposal included no snorkel bedrooms. Snorkel bedrooms with a corridor connecting the room to the building exterior provide poor levels of natural lighting and ventilation.
- The documentation submitted does not allow adequate assessment of design quality, at the DA stage. Specifically the submissions provided did not include documentation recommended by the Apartment Design Guide (ADG -previously the Residential Flat Design Code) detailed sections of the proposed façades, graphic demonstration of required solar access



Mixed Use Development (shop top housing); Rose Bay

mixed use development gives priority to commercial use and street frontage on ground floor level



Outdoor Spaces - St Peter's Green Aged Care; Lane Cove North

a sequence of north facing communal courtyards promote sun access to individual apartments

We make the following key recommendations for the Canterbury Road Corridor:

a*) To protect ground and first floor commercial uses, we recommend that council;*

1. Specify a commercial FSR and a residential FSR for each town centre site;
2. Allow 1:2-1.8:1 residential FSR and 0.6:1 ground floor commercial FSR;
3. Favour commercial floor space over residential floor space by allowing the transfer of residential floor space to commercial and prohibiting the exchange of commercial floor space to residential;
4. Encourage alternative ground floor commercial uses; creative arts and light industry;
5. Support making a more connective walkable street network and site servicing;
6. Endorse the strategies to extend the rear lane network beside Canterbury Road;

b) To promote design quality:

7. Anticipate a greater diversity of housing;
8. Require a dwelling mix of 1, 2 and 3 bedroom apartments;
9. Promote garden and roof top apartments with more generous private open space to accommodate families;
10. Consider introducing requirements for affordable housing;
11. Support housing amenity and diversity;
12. Ban snorkel bedrooms;
13. Promote roof top uses;
14. Incorporate active noise barrier planning including;
    a) Thin cross section buildings along the street frontage;
    b) Secondary rooms on the street frontage including common circulation, laundry, bath rooms, kitchens, sun rooms;
    c) Cross ventilation not dependant on the road frontage;
    d) Setback for deep soil
15. Foster the design and making of varied outdoor spaces;
    a) Provide deep soil plantings;
    b) Provide car parking within the building footprint directly from the street;
    c) Require driveways to be efficiently designed and of minimum width suited to the number of cars serviced;
    d) Review the rationale and logic of on site car parking requirements;
    e) Consider enforcing a maximum rate of on site car parking instead of a minimum rate;

15. Allow corner sites to benefit from a floor space bonus, subject to satisfying design quality and processes;
16. Require that proposals for residential FSRs greater that 1.5:1 be specifically supported by the ADG recommended documentation;
17. Include at least one pre DA and one DA SEPP 65 Design Review as part of the development application process;
18. Introduce conditions that require council review of outstanding design issues as a precondition to the approval of the Construction Certificate (CD);
19. Policies and procedures to deliver design excellence consistent with SEPP65 and the establishment of design review panels are also proposed;
20. Strategically promote small lot re-development; dispense with requirements for on-site parking for lots less than 500m2.

c) In order to achieve better outcomes a series of recommendations are put forward on the drawings and in relation to the building matrix:

21. Building typology and urban for;
22. Building setbacks and street walls;
23. Building heights;
24. Ground plane and relationship of ground floors to the public domain;
25. Minimum block sizes and frontage width for redevelopment; and
26. Service and basement access.

a) Built Form Matrix



Public Domain	Dwelling/ha NET based on site area (excludes allowances for public space)	FSR Corner sites +0.2 * transferable to commercial ** not transferable to residential		Height		Building Footprint	Building Typology	Deep soil landscape
		Residential	Commercial	Storeys	Metres			
25% =	A 25 - 60	0.5 - 1.0	-	Up to 3	11m	30 - 35%	Paired Housing Terrace/ Courtyard Walk-up Apartment	30 - 40%
30%+	B 60 - 100	0.9 - 1.4	-	4 - 4.5	14 - 18m	35 - 40%	Terrace Walk-up and Lifted + Garden Apartment	20 - 35%
35%+	C 80 - 125	1.2 - 1.8	-	5 - 5.5	17.5 - 20m	40 - 45%	Walk-up and Lifted + Garden Apartment	20 - 35%
35%+	D 120 - 160	1.2 - 1.8*	0.5 - 1.0**	5 - 5.5	17.5 - 22.5m	100% max 2 storeys 45 - 50% above 2 storeys	Shop Top Housing Town Centre	0 - 10%
40%+	E 150 - 200	1.8 - 2.4	-	6 - 6.5	17 - 22.5m	50 - 55%	Lifted Apartment Street Wall/Park Front Garden Apartment	20 - 15%
40%+	F 200 - 250	2.4 - 3.6	-	9 - 12	28 - 36m	Max footprint 600m^2	Point Towers Lifted Apartment Park Front Ensembles	20 - 15%

Note: Noise attenuated building design required for all Canterbury Road frontages

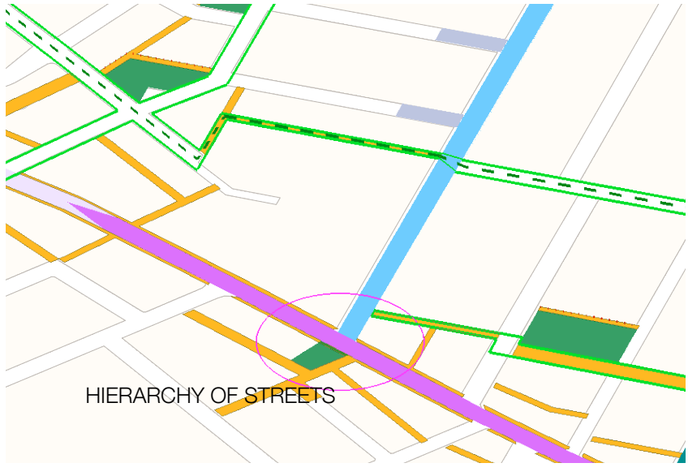
Mixed uses

4.7

centre on canterbury road at Rossmore Avenue



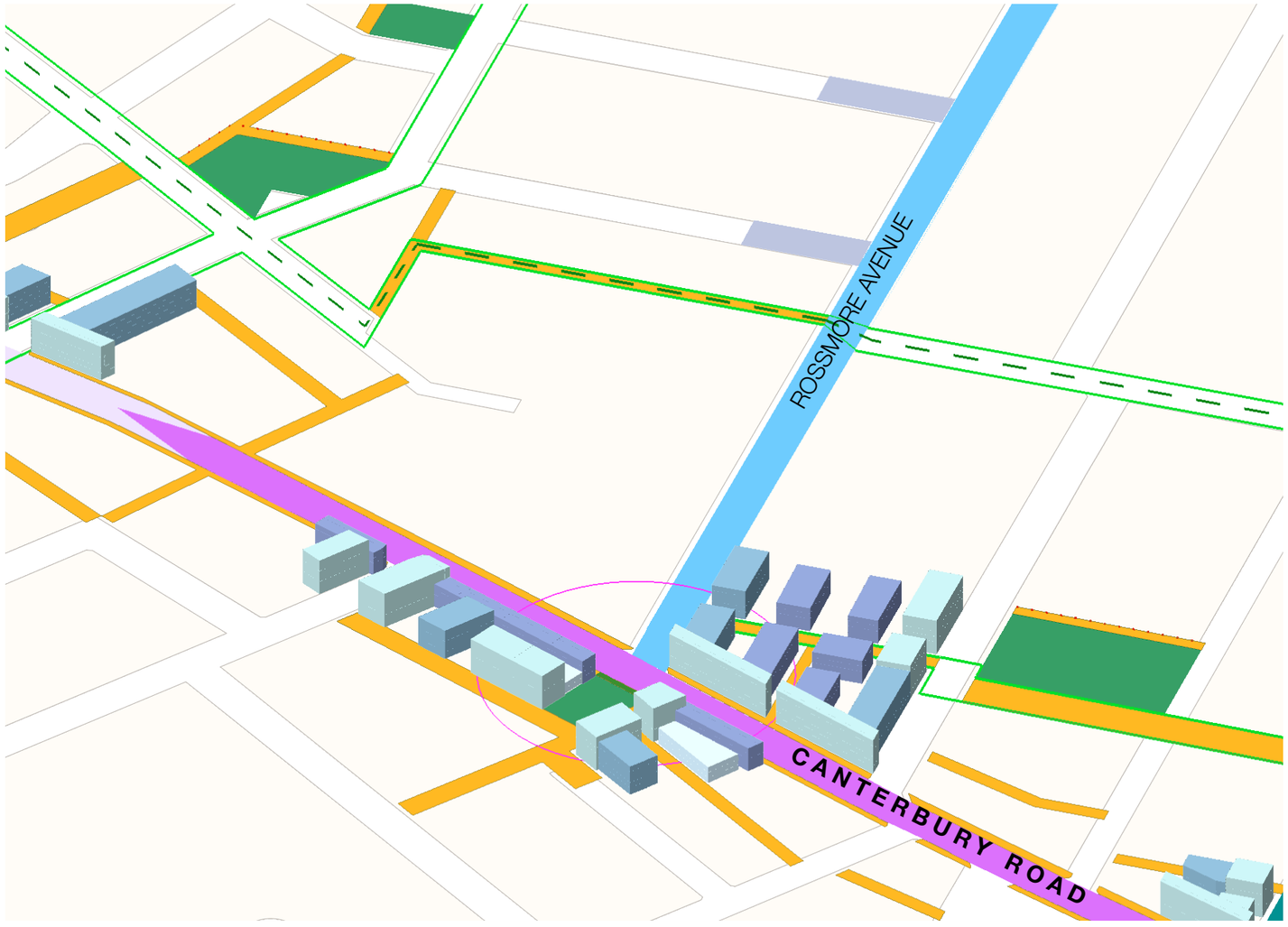
1. STREETS AND PARKS



2.

Punchbowl to South Punchbowl

- New streets (provided through re-development)
- New parks (provided through re-development)t
- Greenway along rail corridor by DPE (indicative)
- Streets with high traffic use - alienated



3. NEW DEVELOPMENT

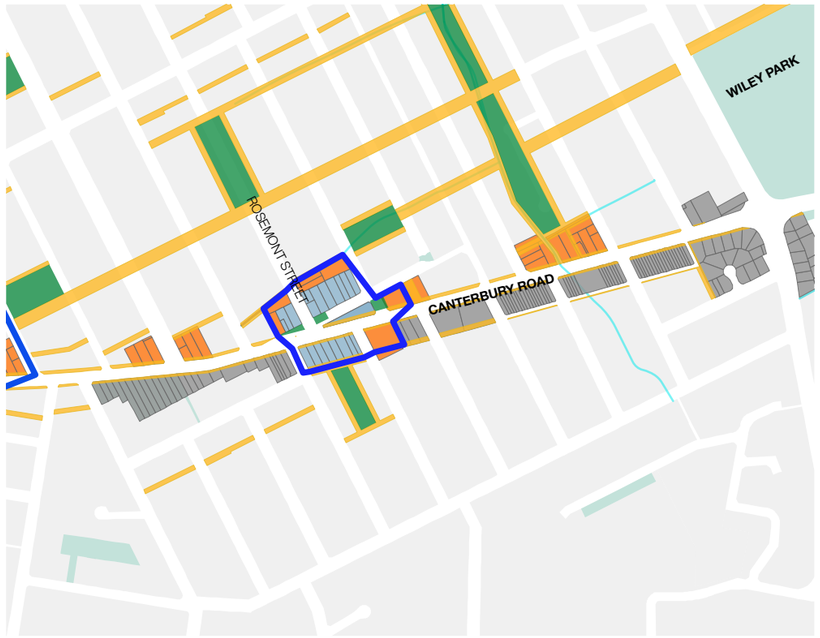
- **B3** PARKING STREET
- **C1** BROADWAY AS BOULEVARD
- **C2** GREEN GRID STREET WITH CYCLEWAY
- **C3** GREEN GRID STREET WITH BIOSWALE
- **C4** LINEAR PARK WAY
- **A1** RE IMAGINING CANTERBURY ROAD BETWEEN CENTRES
- **A2** RE IMAGINING CANTERBURY ROAD AT CENTRES
- **B1** GREEN MAIN STREET
- **B2** GREEN MAIN STREET - EXTENSION
- **C5** OTHER NEW STREETS

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4.8a

precincts in detail

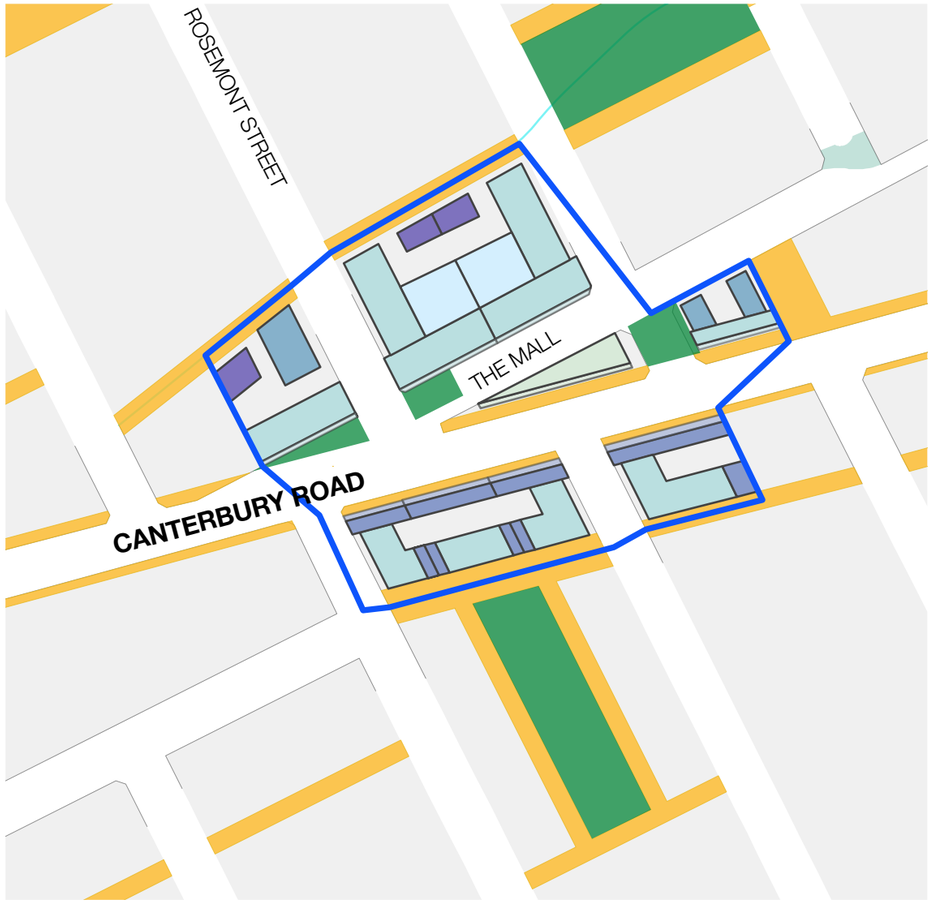
C *ROSEMONT STREET*

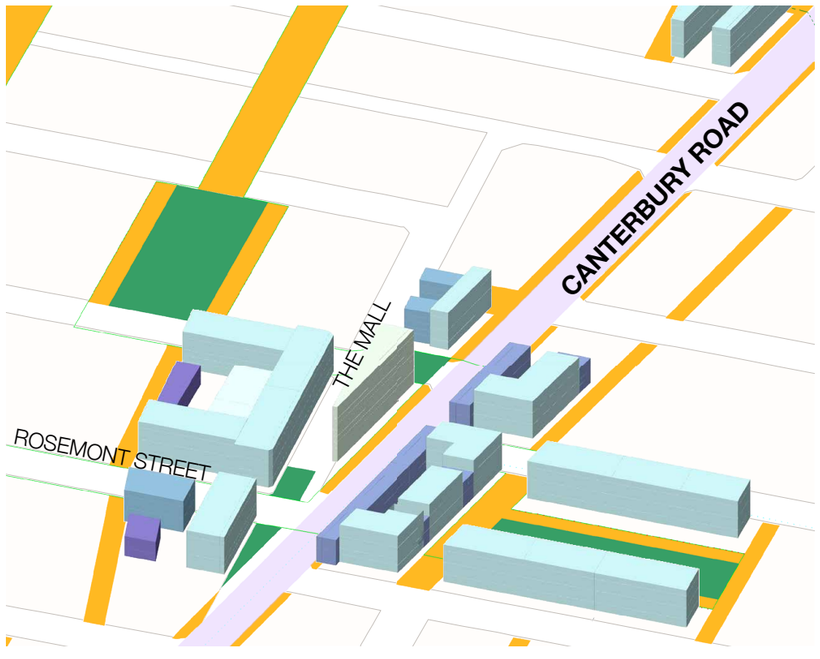


Project Location

MAKING PUBLIC SPACE
- New street, lane or walkway
- New park

- 1 - 3 storeys
- up to 4 storeys
- up to 5 storeys
- up to 5 storey shop top
- up to 6 storeys
- 9*+ storeys





Building Massing

- New streets (provided through re-development)
- New parks (provided through re-development)t
- Greenway along rail corridor by DPE (indicative)
- Streets with high traffic use - alienated
- Key cross-city bus route
- New shared pedestrian cycle bridge
- Critical intersection with dedicated right-turn lane as part of A1 Canterbury Road upgraded condition

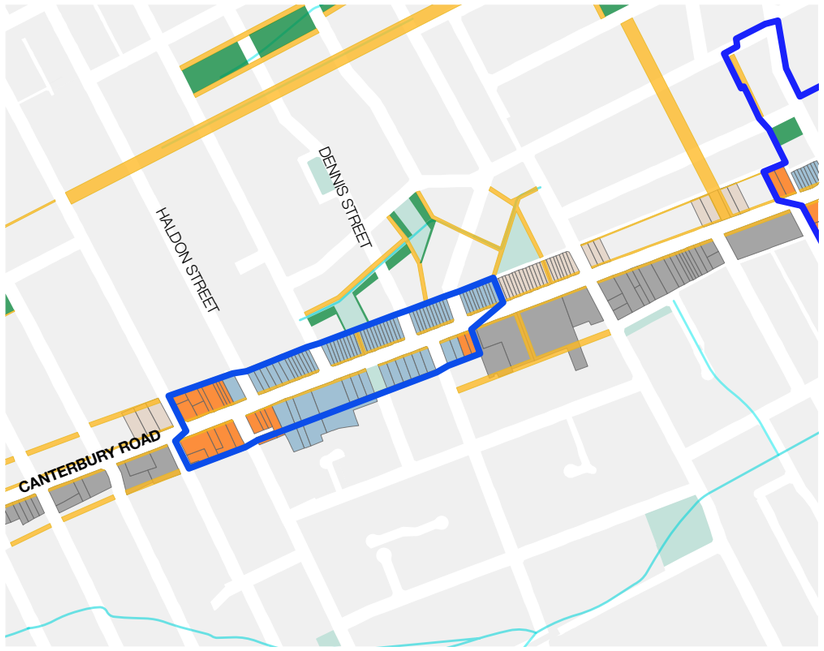
Potential Built Form

- 2 storey (commercial)
- 3 storey
- 4 storey
- 5 storey
- 6 storey
- 9 storey small foot print towers

4.8b

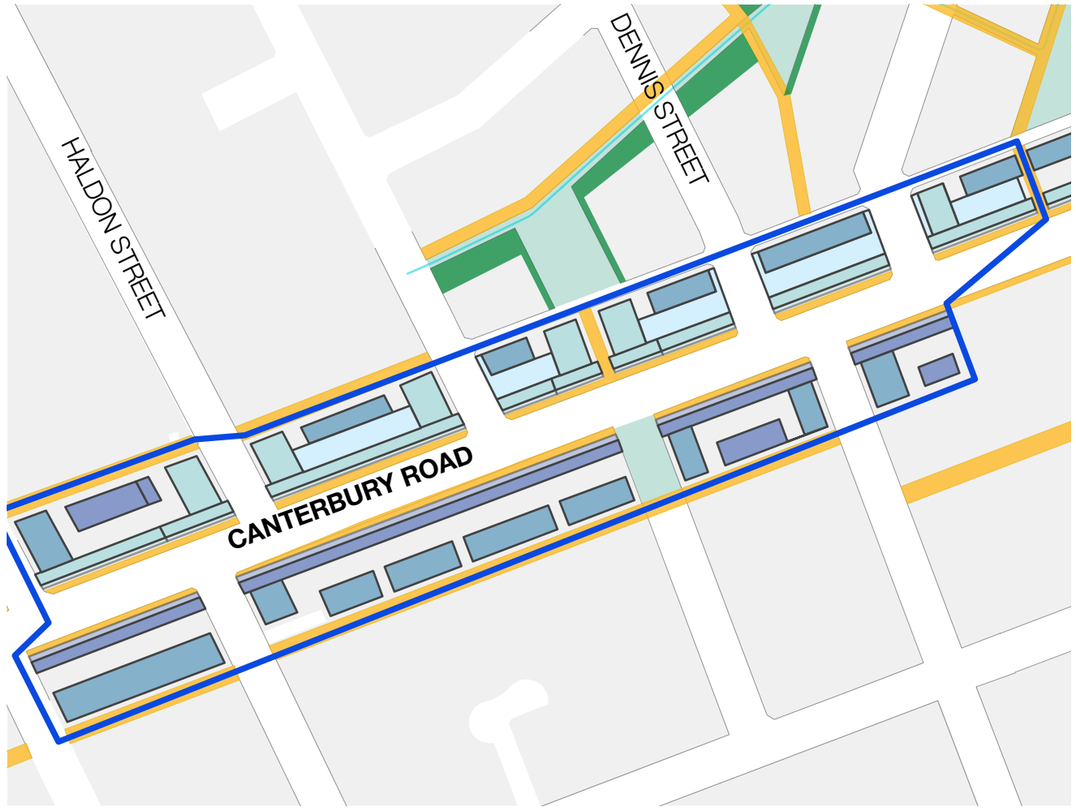
precincts in detail

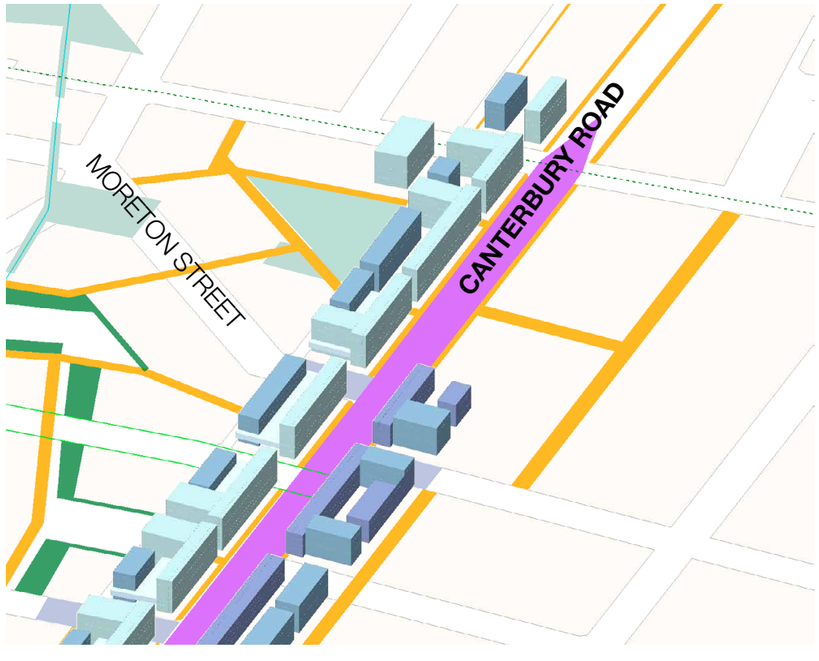
D *HALDON STREET*



Project Location

- New street, lane or walkway
- New park
- 1 - 3 storeys
- up to 4 storeys
- up to 5 storeys
- up to 5 storey shop top
- up to 6 storeys
- 9*+ storeys





Building Massing

- New streets (provided through re-development)
- New parks (provided through re-development)t
- Greenway along rail corridor by DPE (indicative)
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Potential Built Form

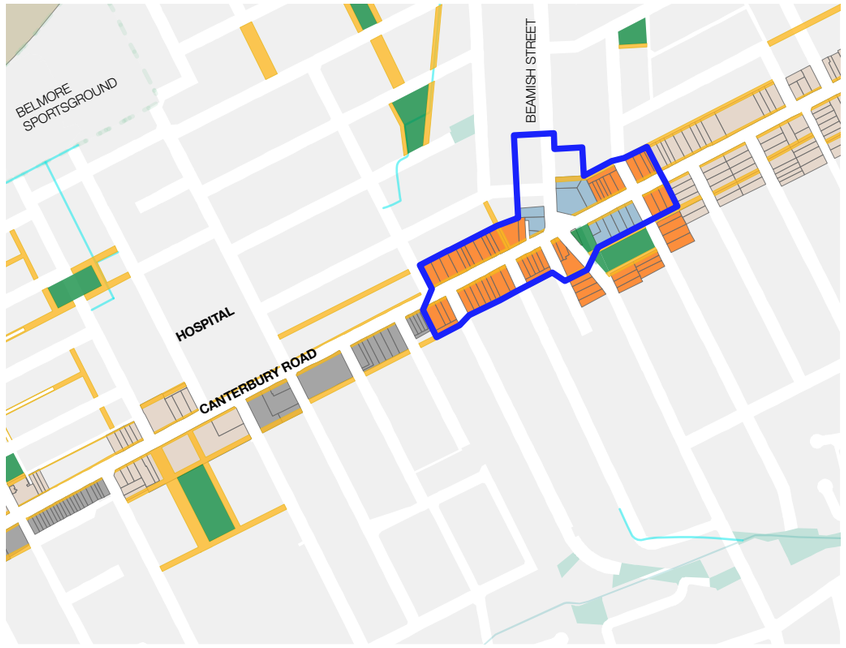
- 2 storey (commercial)
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4.8c

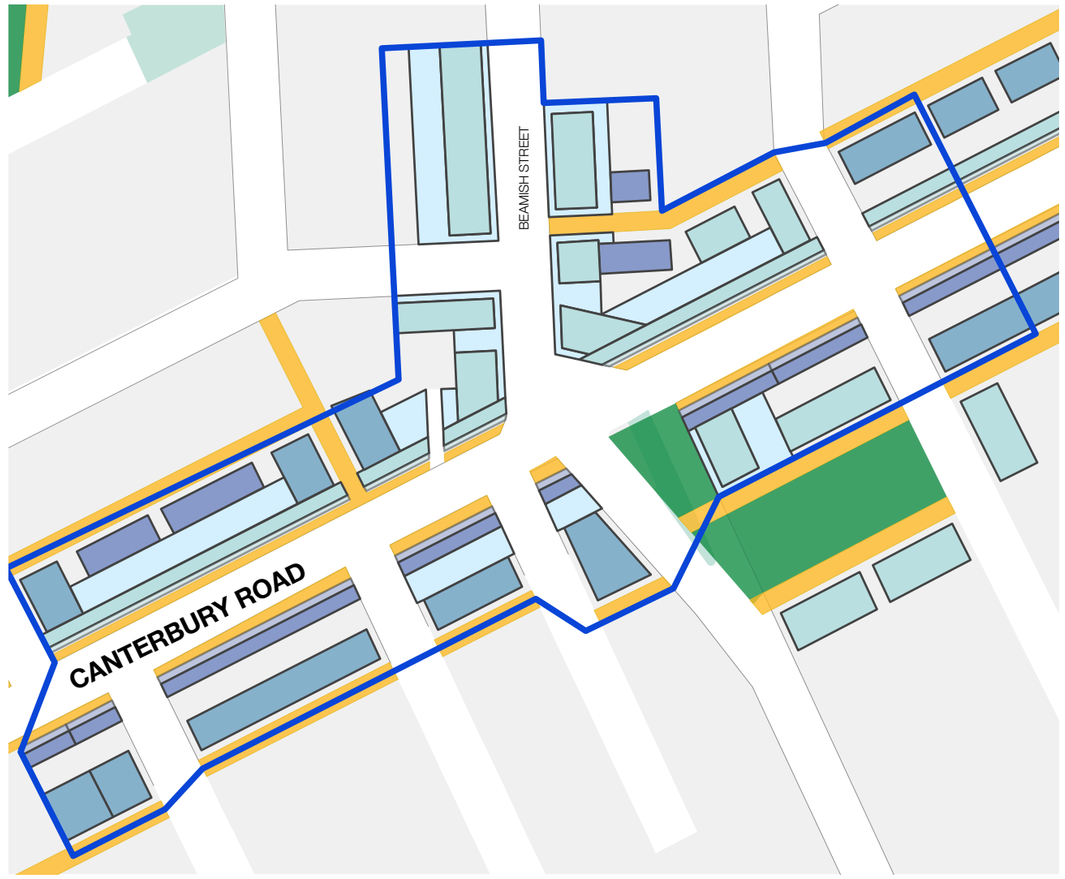
precincts in detail

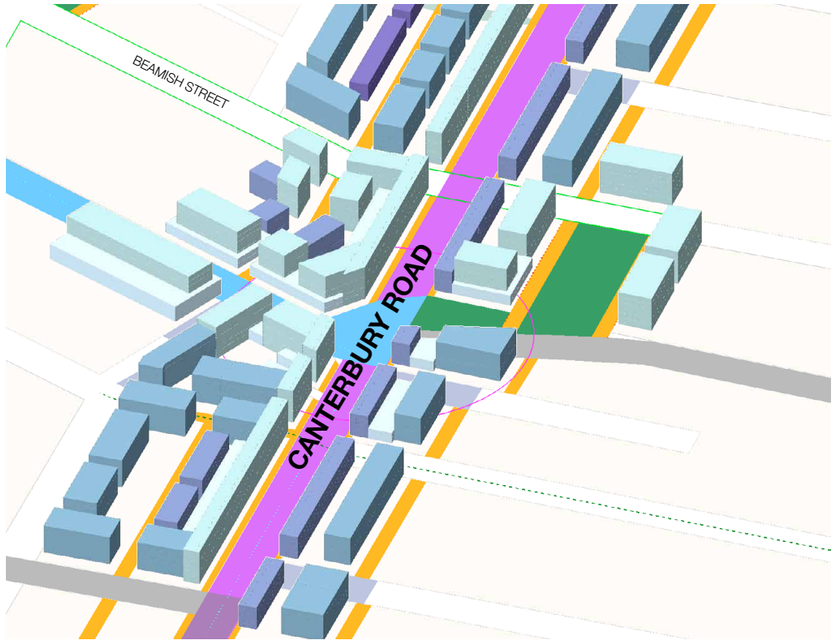
F *BEAMISH STREET*



Project Location

- New street, lane or walkway
- New park
- 1 - 3 storeys
- up to 4 storeys
- up to 5 storeys
- up to 5 storey shop top
- up to 6 storeys
- 9*+ storeys





Building Massing

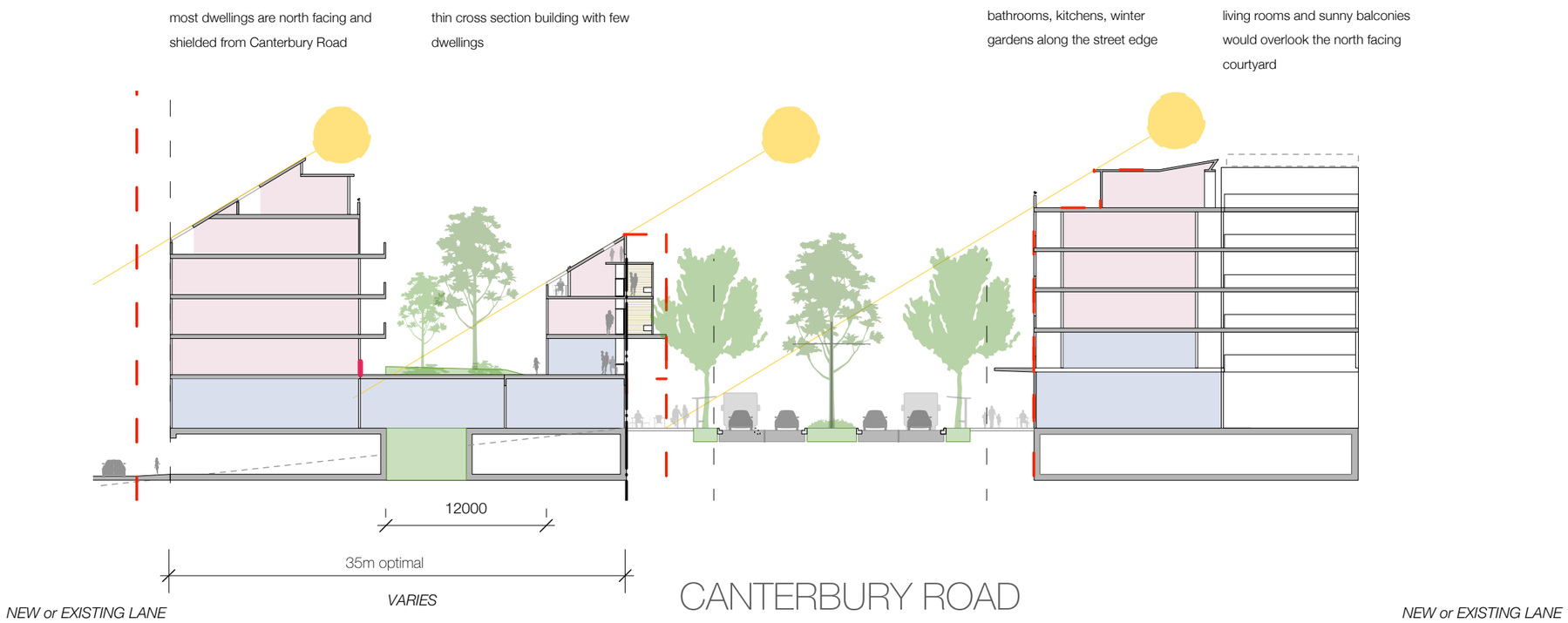
- New streets (provided through re-development)
- New parks (provided through re-development)t
- Greenway along rail corridor by DPE (indicative)
- Streets with high traffic use - alienated
- Key cross-city bus route
- New shared pedestrian cycle bridge
- Critical intersection with dedicated right-turn lane as part of A1 Canterbury Road upgraded condition

Potential Built Form

- 2 storey (commercial)
- 3 storey
- 4 storey
- 5 storey
- 6 storey
- 9 storey small foot print towers

4.9

noise barrier buildings



Development to the north of Canterbury Road, backs onto the street, opens to north and shields other sites to the north from the adverse traffic impacts from the street.

4.10

yields

Canterbury Road Urban Design Study - YIELDS 6 June 2017 - CANTERBURY ROAD CORRIDOR ONLY

SECTOR	Additional retail footprint		footprint 3	@3 storey	footprint 4	@4 storey	footprint 5	@5 storey	footprint 6	@6 storey	footprint 9	@9 storey	TOTAL GFA	Non-res 10%	Res remaining @70% efficiency	Dw. Yield (75sqm ave)
Centre A	3182		893	2,679	0	0	1,143	5,715	4,622	27,732	600	5,400	41,526	4,153	26,161	349
between A & B	575		1,962	5,886	0	0	3,569	17,845	6,212	37,272	0	0	61,003	6,100	38,432	512
Centre B	1070		0	0	4,187	16,748	2,709	13,545	4,308	25,848	577	5,193	61,334	6,133	38,640	515
between B & C	0		168	504	0	0	316	1,580	1,633	9,798	0	0	11,882	1,188	7,486	100
Centre C	1149		545	1,635	1,642	6,568	742	3,710	5,903	35,418	0	0	47,331	4,733	29,819	398
between C & D	0		0	0	1,249	4,996	1,504	7,520	4,763	28,578	0	0	41,094	4,109	25,889	345
Centre D	3022		0	0	4,907	19,628	6,703	33,515	5,684	34,104	0	0	87,247	8,725	54,966	733
between D & E	0		0	0	755	3,020	951	4,755	3,609	21,654	0	0	29,429	2,943	18,540	247
Centre E	1149		566	1,698	3,505	14,020	2,935	14,675	7,003	42,018	0	0	72,411	7,241	45,619	608
between E & F	0		241	723	2,068	8,272	2,757	13,785	4,968	29,808	0	0	52,588	5,259	33,130	442
Centre F	6333		0	0	4,166	16,664	5,312	26,560	7,859	47,154	0	0	90,378	9,038	56,938	759
between F & G	0		532	1,596	5,391	21,564	16,552	82,760	9,115	54,690	0	0	160,610	16,061	101,184	1,349
Centre G	3342		0	0	2,221	8,884	5,099	25,495	2,810	16,860	0	0	51,239	5,124	32,281	430
east of G	7685		1,556	4,668	19,585	78,340	13,587	67,935	26,377	158,262	3,238	29,142	338,347	0	236,843	3,158
TOTALS	27507												1,146,419	80,807	745,928	9,946
	additional as shown on plan													within/under residential footprints		
Recent Development *	deducted from above		* Recently constructed developments and approved Development Applications should be removed from the above totals. A total of 2500 dwellings is deducted to reflect development capacity no longer available along the Canterbury Road frontage.													1,500
TOTALS																8,446

Yield Calculations are Based on the Following Parameters :

1. Demonstrated built form shown on 4.1 Canterbury Road Corridor Plan;
2. Demonstrates SEPP65 and Apartment Design Guide amenity standards;
3. Residential floor area is based on 70% of the envelope floor area by floor space to account for area not counted in GFA (gross floor area), balconies and architectural articulation;
4. 10% of the total floor area calculation being for non residential uses;
5. 75 sq m average apartment - affected by the actual apartment area and whether it is biased toward family apartments or small apartments; and
6. 16.5m building depth.

5.0

greater canterbury road corridor; city making

key propositions

5.1

The Vision

Transform the greater Canterbury Road Corridor through design led urban renewal to create a sustainable and resilient place with a;

- Complete neighbourhood structure with a range of accessible parks and community facilities that meet community needs;
- Diverse range of housing types including single family and missing middle* housing types as well as medium and high rise apartment buildings;
- Connective street pattern that facilitates walkability, particularly to parks and community places and public transport;
- Fine mesh of green streets* and parks that contributes to Sydney's 'green grid*' and canopy cover;
- Comprehensive active travel network that facilitates walking and cycling; and
- Distinctive and high quality public domain that provides memorable and highly valued places for the community to meet, celebrate and to live with dignity.

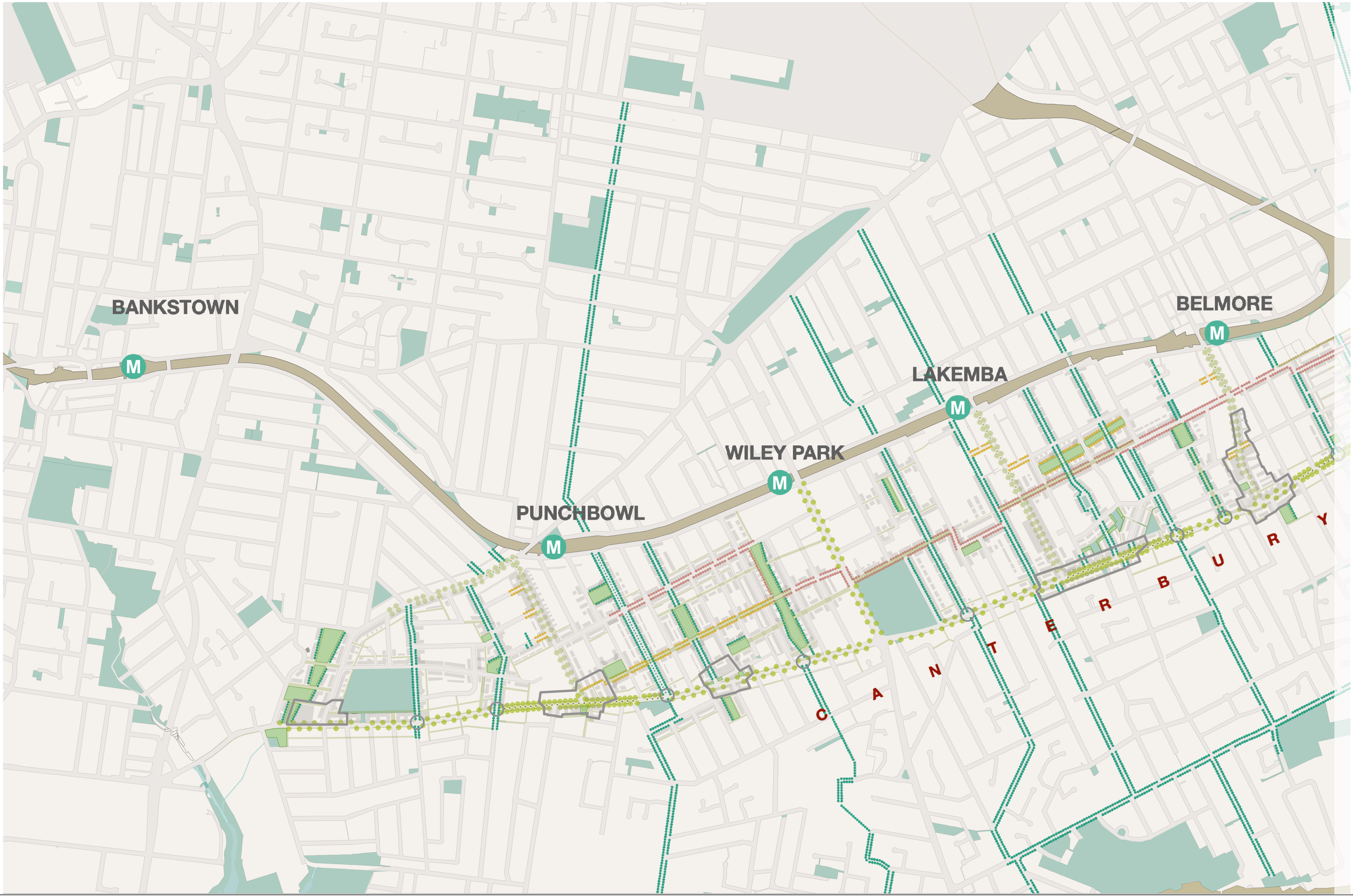
New Urban Elements

To achieve this vision careful and deliberate urban design proposals have been developed to address the emerging needs of a higher density community that is envisaged to grow rapidly in conjunction with the new metro system. These proposals include the following urban elements:

- A range of new local/neighbourhood parks distributed equitably to enable uniform easy walking within the greater Canterbury road corridor;
- A network of enhanced and new 'green streets*' (a 'green grid*) that facilitates safe and easy walking and cycling to parks, railway stations and main streets, as well as slow moving buses and cars; and
- Upgrades to Canterbury Road in conjunction with new or enhanced urban centres located at key junctions between Canterbury Road and enhanced north south streets that connect to Bankstown to Sydenham railway stations.

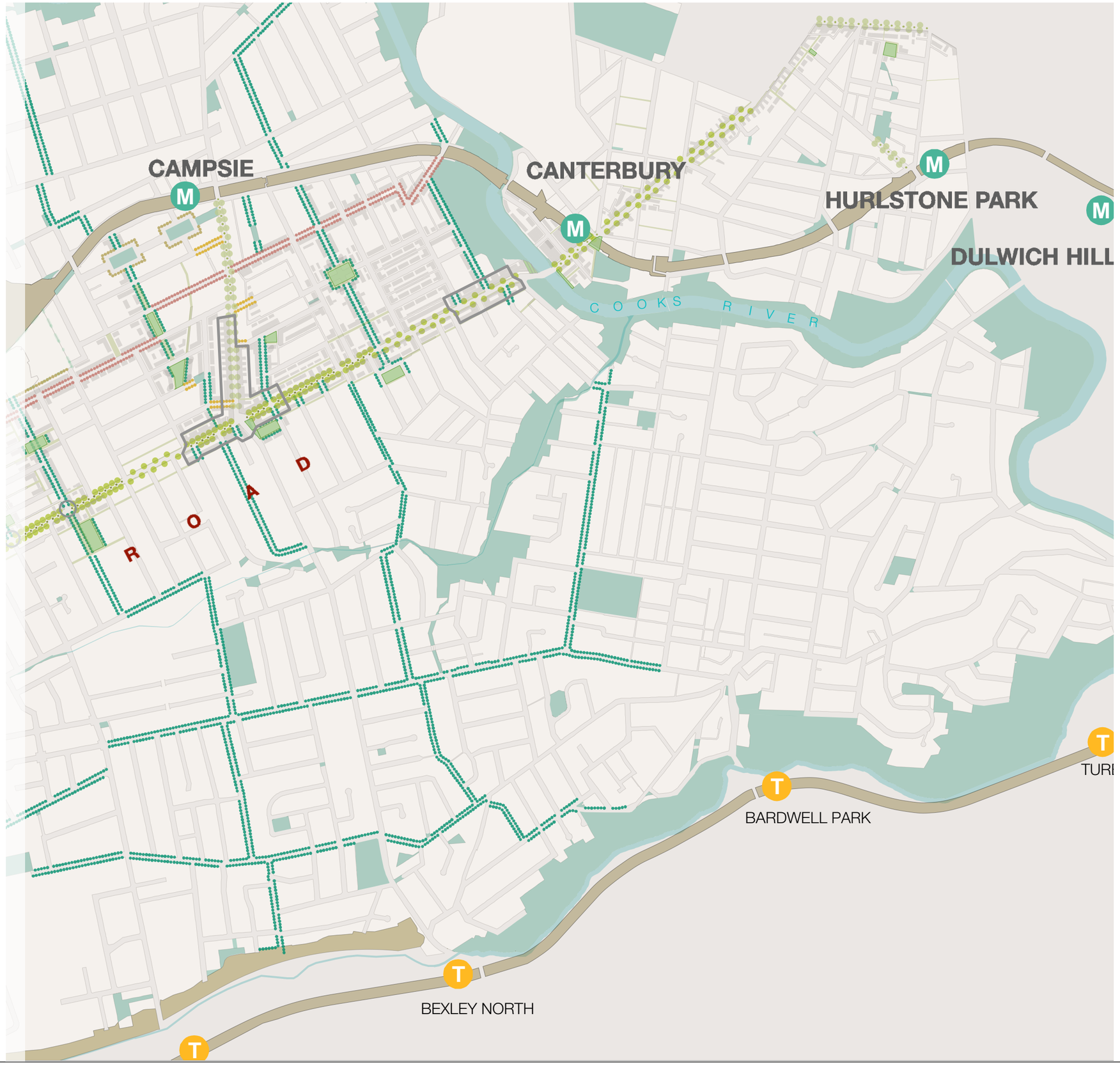
The Canterbury 'green grid' establishes a hierarchy of streets related to main streets, local streets upgrades and new local streets, which are all made amenable with significant tree plantings. It is proposed that a new cycleway network will connect railway stations on the East Hills line with the Sydenham to Bankstown line.

The Canterbury green grid includes cycle streets, park edge streets and streets that perform water sensitive urban design functions such as streets with bio-swales. These streets can provide key elements of a new high amenity recreational walking street network.



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the vision plan

KEY

- Existing Parks
- New parks
- New centres
- Localities
- Main Street
- Canterbury Road
- North South Green Cycle Streets
- East West Green Spine and Cycleway
- East West Connective Streets

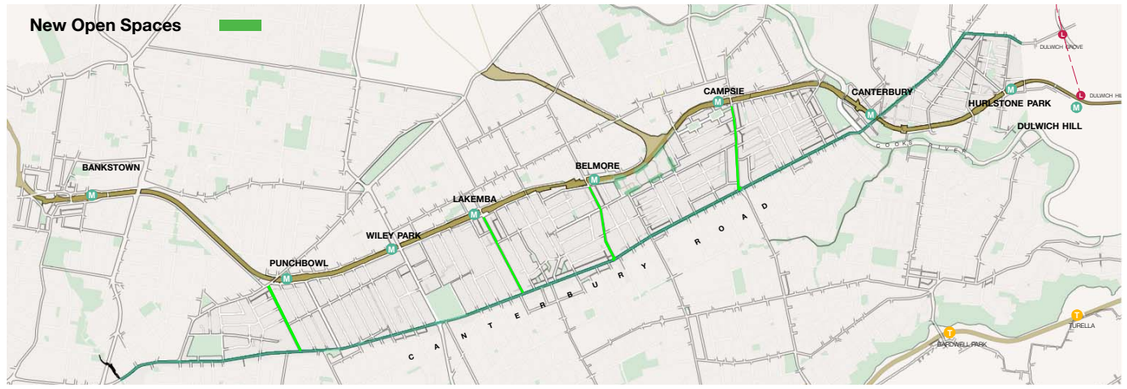
scale: 1:15000 @A3

0 150m 600m

5.2 *public space strategy*

Making Canterbury Road suitable for pedestrians and for city life includes;

- Street widening, verges and significant tree planting
- A planted median and right turn lane at centres;
- More pedestrian crossing points to support walkability; and three new centres; and
- Be partnered with a network of rear lanes for site servicing.



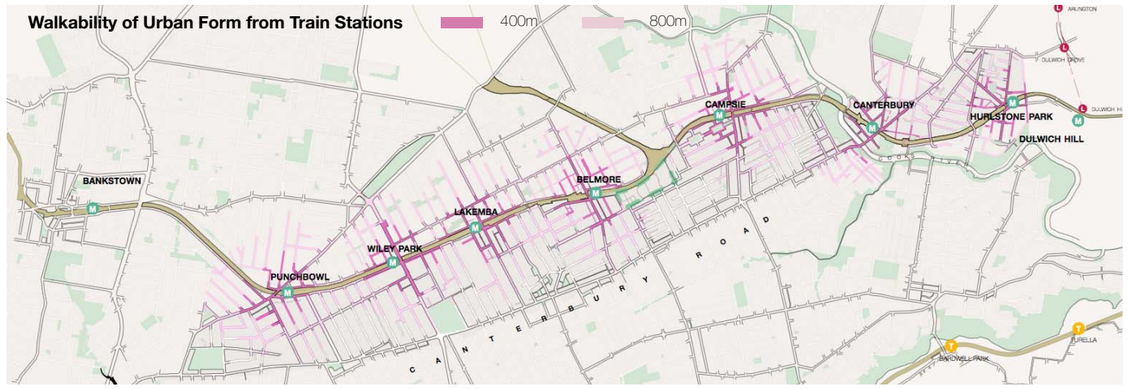
1. Make Canterbury Road a place of significance and convergence



St Kilda Rd

Canterbury road corridor up to 1km from existing and future structural transport is walkable.

Correcting the existing bus network to make more decisive station to station connections would support an increase to the public transport modal share and reinforce livable local centres.

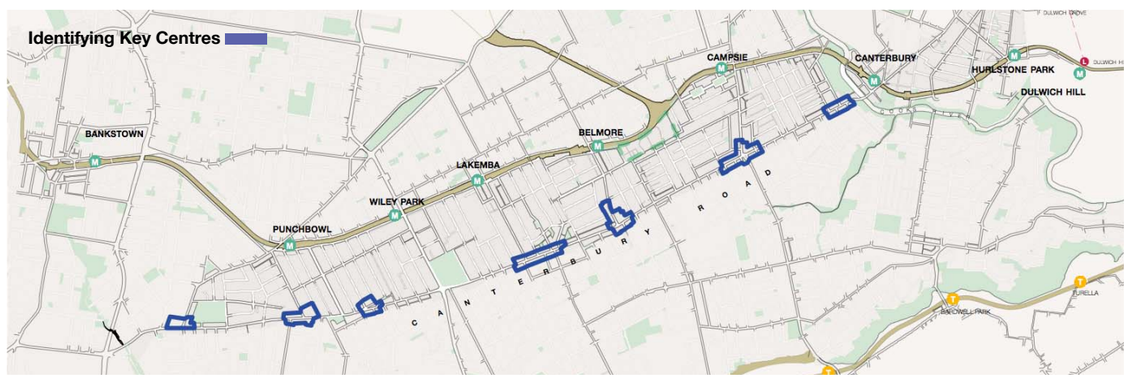


2. Capture public transport enhancements – both rail and bus



Queen Street Woollhara

Adding liveable local centres will provide diversity of street character along Canterbury Road with co-located commercial and community facilities with housing above. Between centres, the variety of existing uses could remain and be replaced with commercial edge uses



3. Enliven existing centres and provide new liveable centres



Marrickville Town Centre

scale: 1:50000 @A3

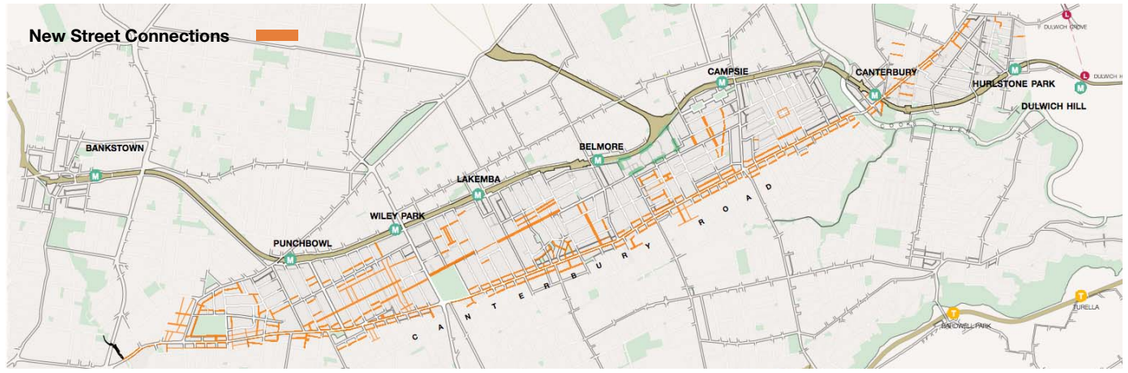
0 500m 10km

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5.2 *public space strategy*

Increases in urban density within the corridor need to be combined with new connective streets in poorly connected urban areas, to:

- Foster walkability and encourage;
- Provide healthier journey choices; and
- Make places more open and connected



4. Create walkable networks of quality streets, lanes and walkways



Suburban Paris Mixed Use Development

In order to meet the needs of the emergent community, the supply of new open spaces and parks could in part be delivered by increases in urban density.

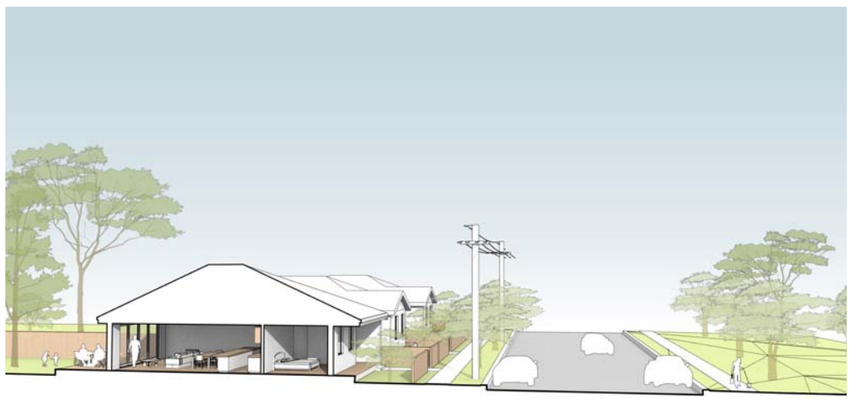


5. Provide suite of safe and accessible parks, squares and natural places



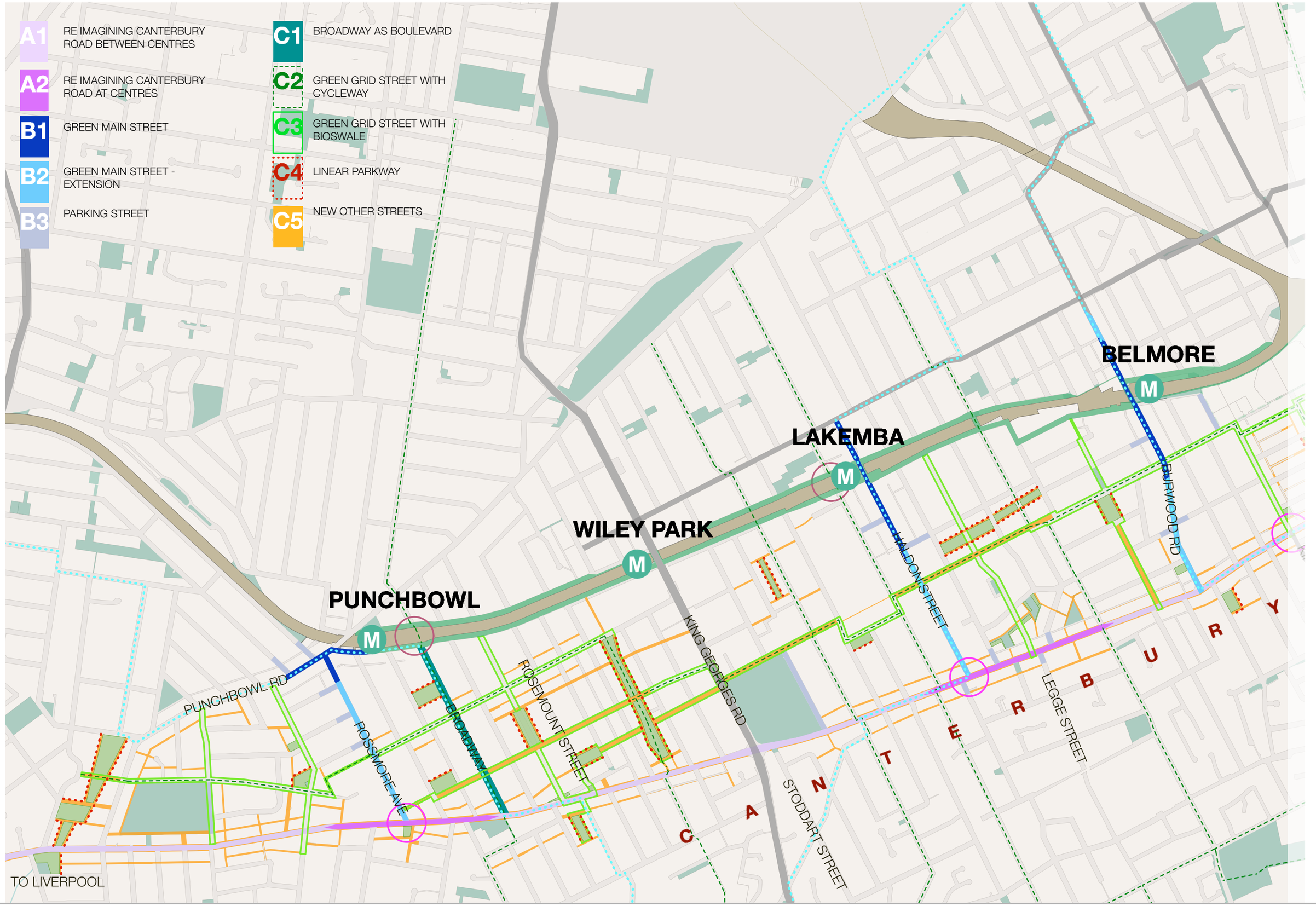
Victoria Park Development

The variety of building forms related to this public space led development approach should diversify housing choice. By maintaining increased housing density with increased amenity, Mixed use with community and / or commercial ground floor at centres along Canterbury Road will add to liveability. Missing middle* housing including walkup apartments and terrace housing, is well suited to nearby locations.



6. Matching increased density with increased amenity





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5.3 *the green grid of canterbury*

The Green Grid of Canterbury demonstrates the Metro Strategy Objectives and the aims of the Sydney Green Grid recently prepared by the Government Architect Office, by recasting the local streets of Canterbury Road Corridor into green streets.

The Green Grid of Canterbury establishes a hierarchy of streets related to main streets. local streets and new streets made amenable with significant tree plantings.

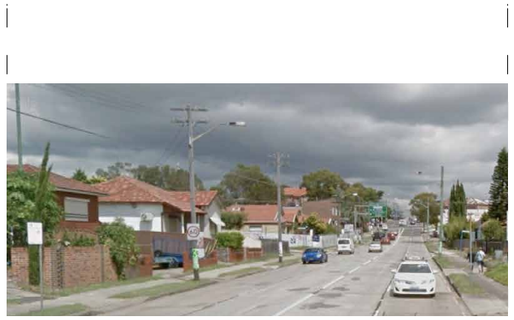
Council's cycleway network connecting rail stations on the East Hills line with the Sydenham Bankstown line is reinforced by connecting local parks to function locally and regionally

The Green Grid of cycle streets, park edge streets and bio-swale streets would be the bones of a new high amenity recreational walking street network including parks, town centres and public transport.

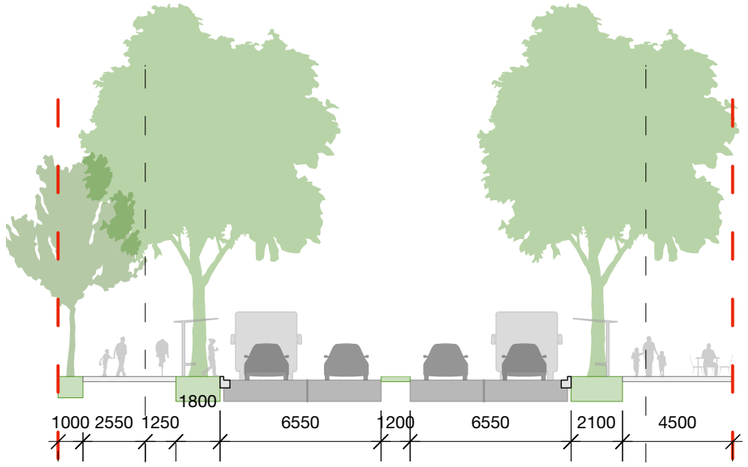
Existing Urban Elements

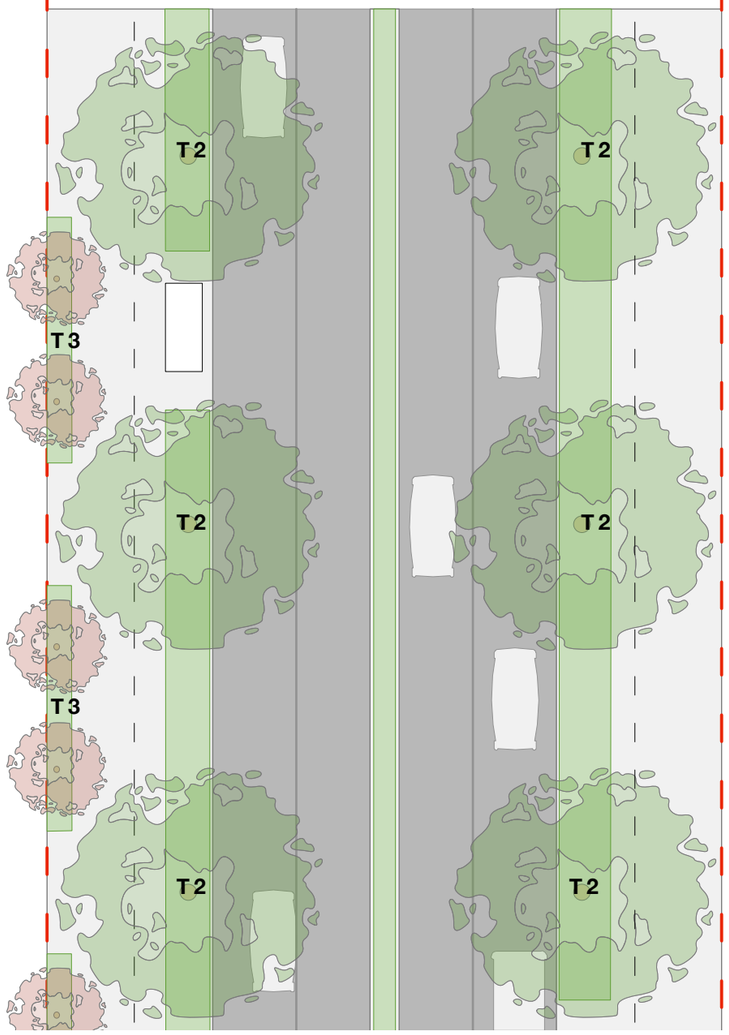
- New streets
- New parks
- Greenway along rail corridor by DPE (indicative)
- Streets with high traffic use - alienated
- Key cross-city bus route
- New shared pedestrian cycle bridge
- Critical intersection with dedicated right-turn lane as part of A1 Canterbury Road upgraded condition

The street sections which follow suggest and demonstrate a variety of ways of using streets more effectively. A robust and durable material palette, with significant tree plantings of varied character are suggested.









STREET TYPE **A1**

RE IMAGINING CANTERBURY ROAD BETWEEN CENTRES

4.2a

canterbury road dominant condition

1. Retain existing kerb lines

2. Underground existing power lines

3. Public dedication by re-developed sites to widen Canterbury Road

4. Set back buildings to add street trees

5. Plant large urban trees in the verge and setbacks

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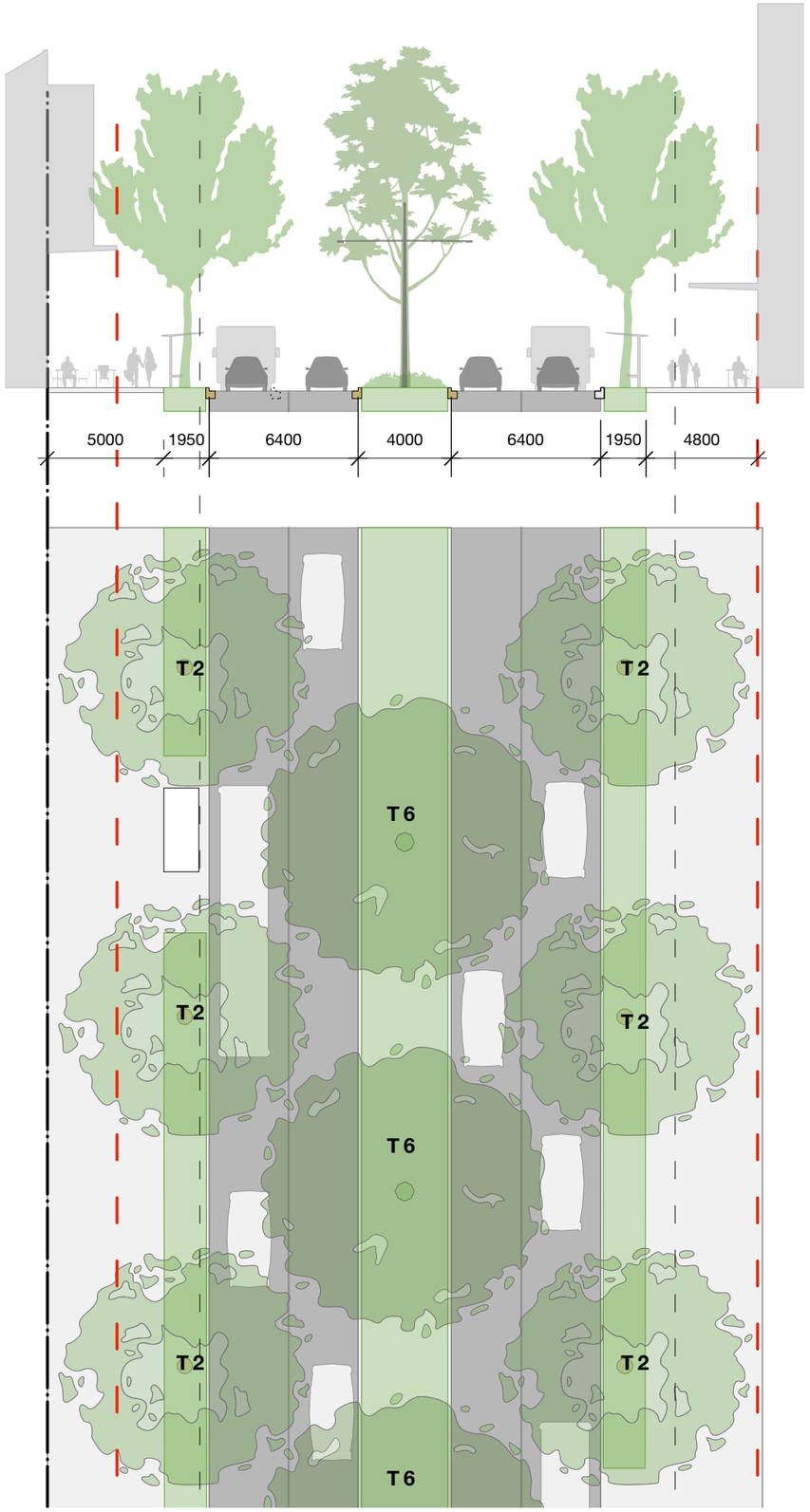
WBB





scale: 1:250 @A3

0 2.5m 10m



STREET TYPE

A2

RE IMAGINING CANTERBURY ROAD AT CENTRES

4.2b

canterbury road at three main centres

1. Retain existing north kerb lines

2. Introduce medians locally to accommodate turning lanes and trees

3. Underground or bundle existing power lines

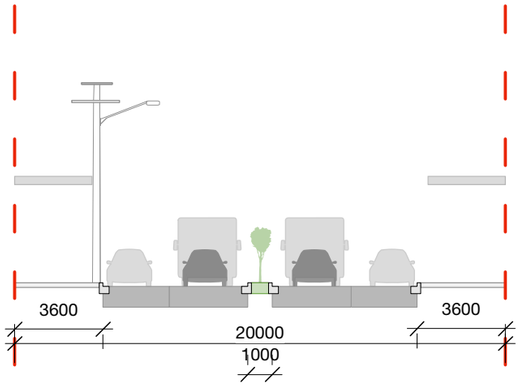
4. Public dedication by re-developed sites to widen Canterbury Road

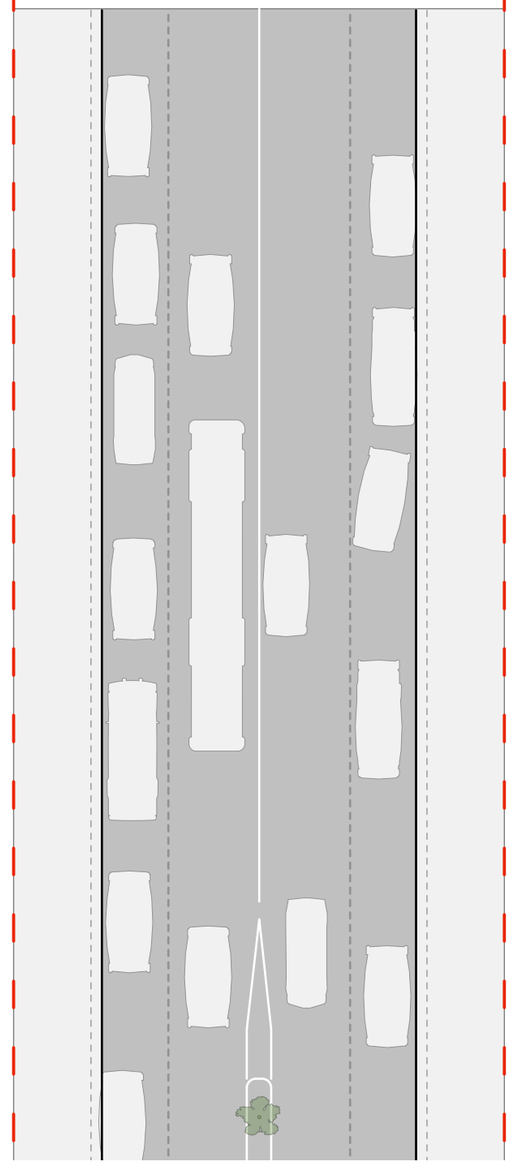
5. Plant major street trees for amenity

BEFORE

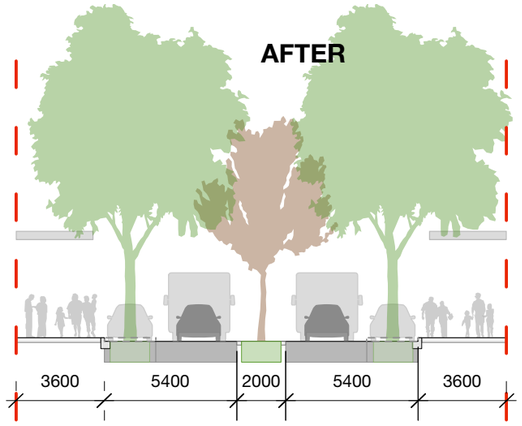


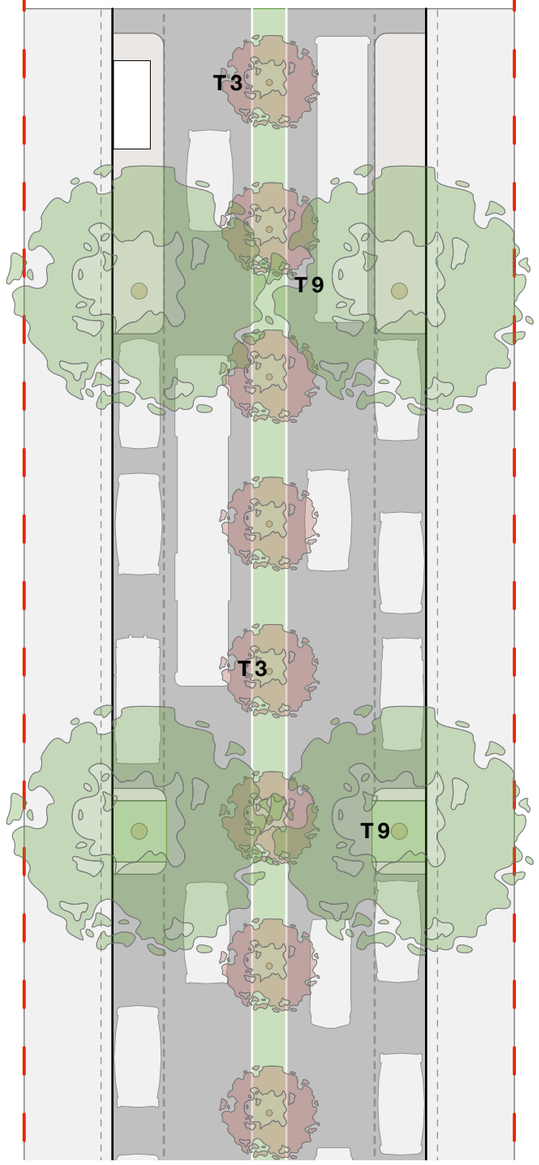






AFTER





STREET TYPE

B1

GREEN MAIN STREET

1. Retain existing kerb lines;
2. Underground or bundle existing power lines on awnings;
3. Widen the pavement for bus stops, street furniture and alfresco dining without interrupting pedestrian flow;
4. Plant large major trees @ intervals along the parking lane.
5. Mature median planting or none

scale: 1:250 @A3

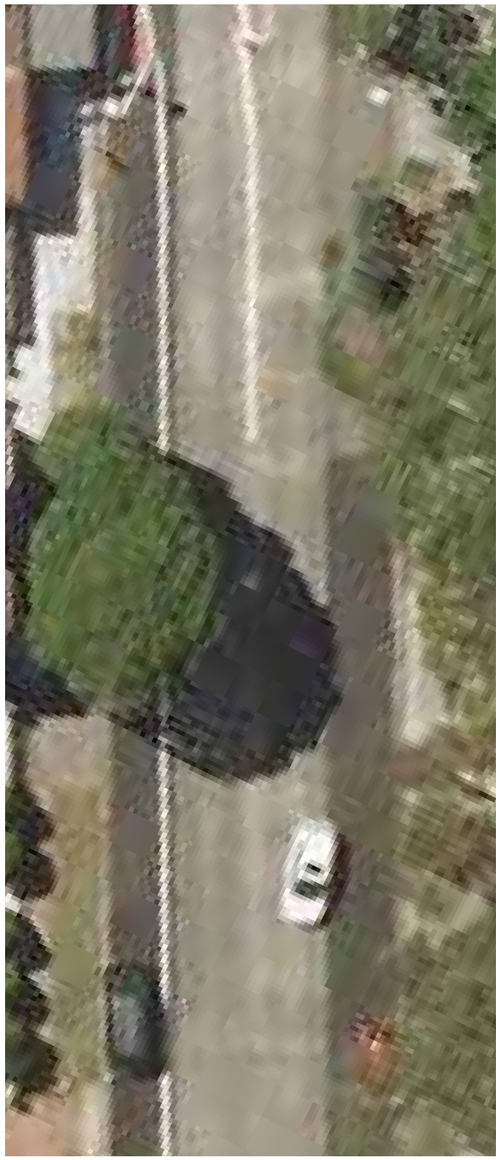
0 2.5m 10m

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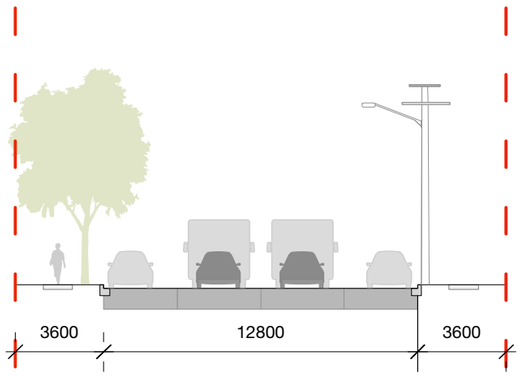
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BEFORE

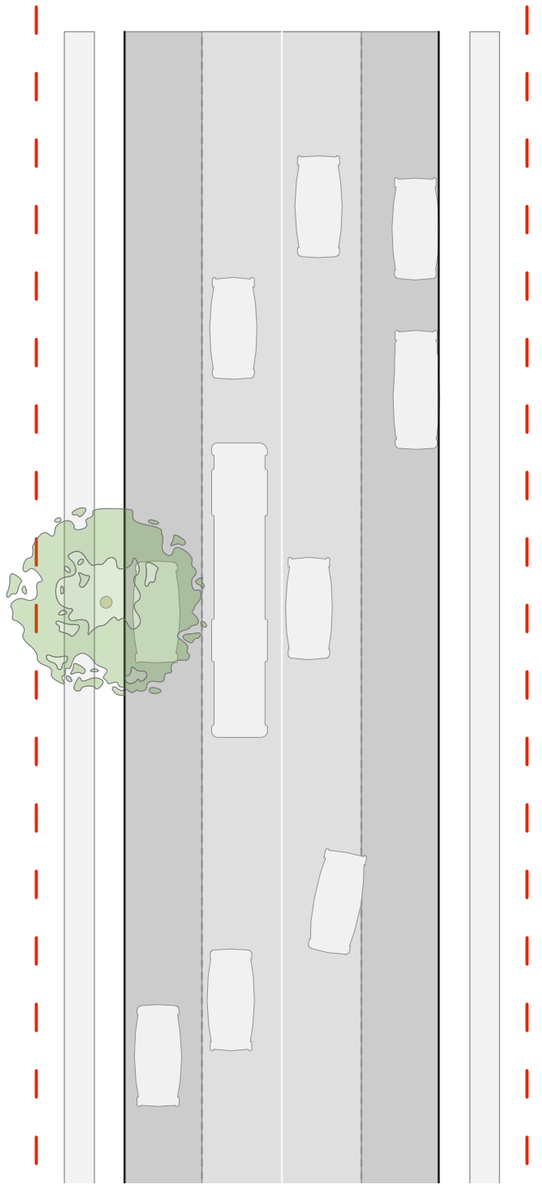


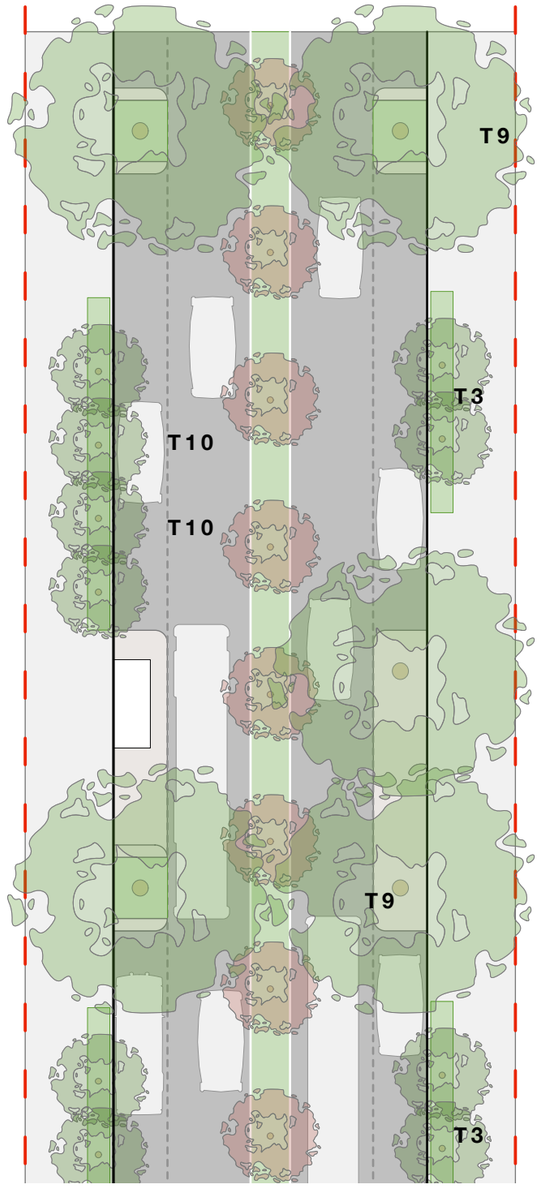


AFTER









STREET TYPE **B2**

GREEN MAIN STREET EXTENSION

1. Retain existing kerb lines;
2. Underground or bundle existing power lines on awnings;
3. Widen the pavement for bus stops, street furniture and alfresco dining without interrupting pedestrian flow;
4. Mature median planting or none
5. Plant large major trees @ intervals along the parking lane.
6. Verge tree planting, if there is no street awning

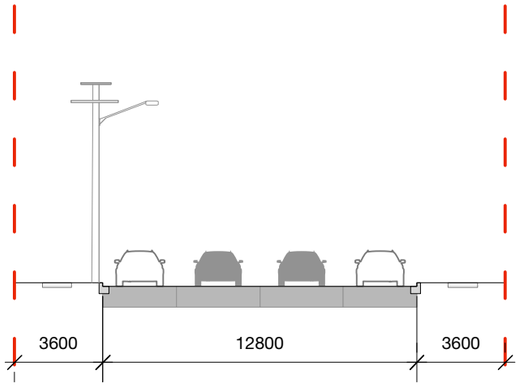
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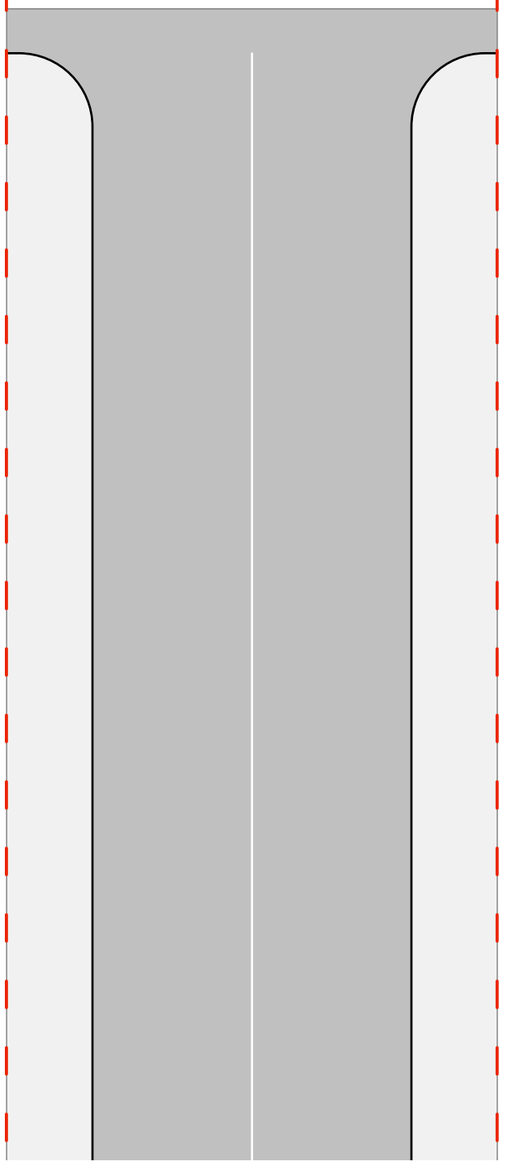
0 2.5m 10m

BEFORE

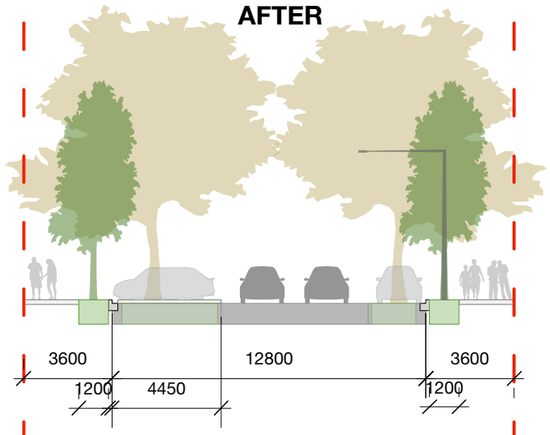


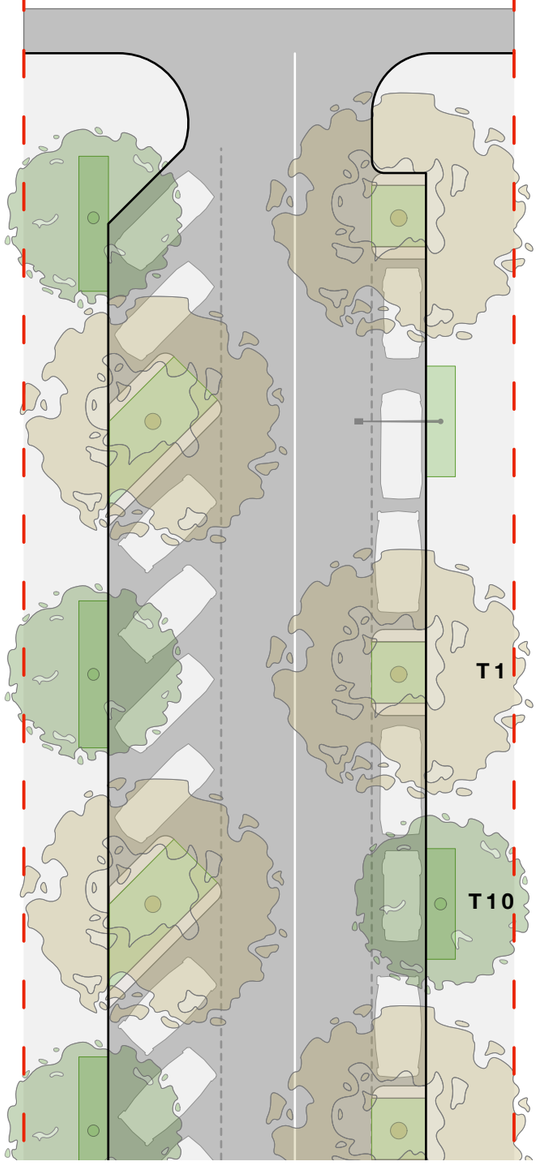






AFTER





STREET TYPE

B3

PARKING STREET

1. Retain existing kerb lines;

2. Underground power lines;

3. Introduce 45 degree car parking;

4. Plant major urban trees @ intervals along the parking lane.

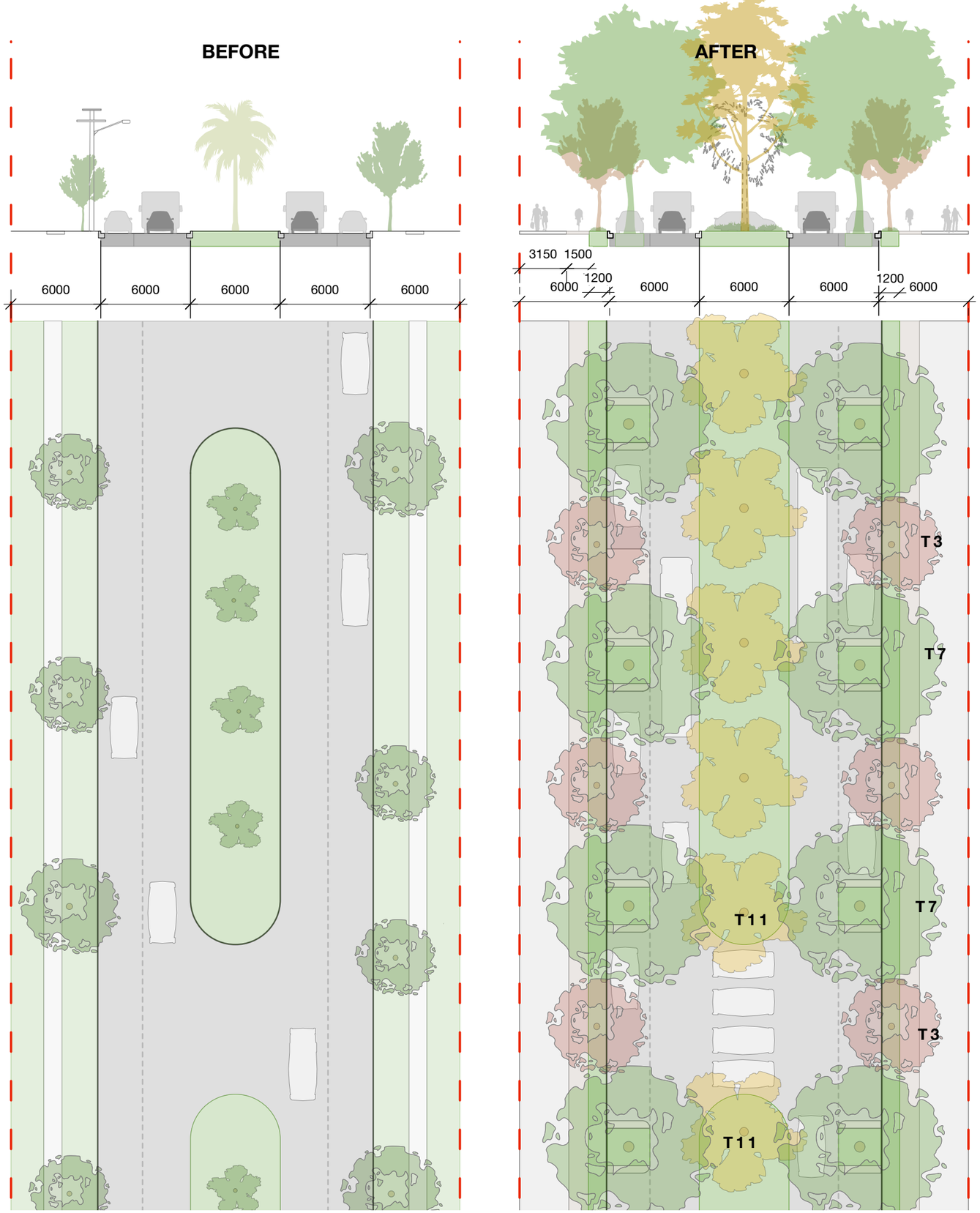
5. Verge tree planting.

scale: 1:250 @A3

0 2.5m 10m

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STREET TYPE

C1

BROADWAY AS BOULEVARD

1. Retain existing kerb lines;

2. Underground power lines;

3. Introduce more trees @ intervals along the parking lane;

4. Replace verge tree planting with more monumental trees

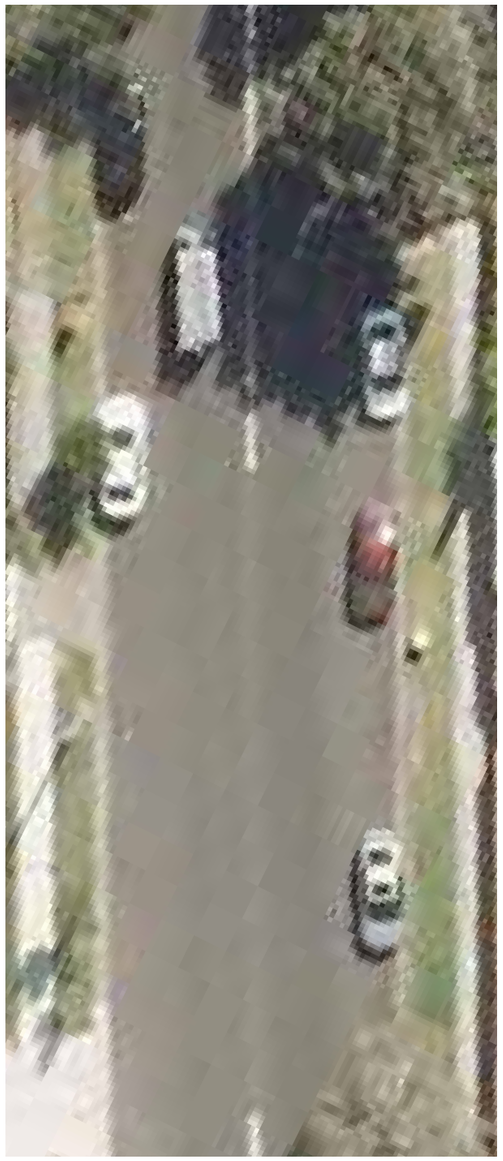
Design development of this heritage-listed street would reconcile appropriate plantings suitable for the next 100 years.

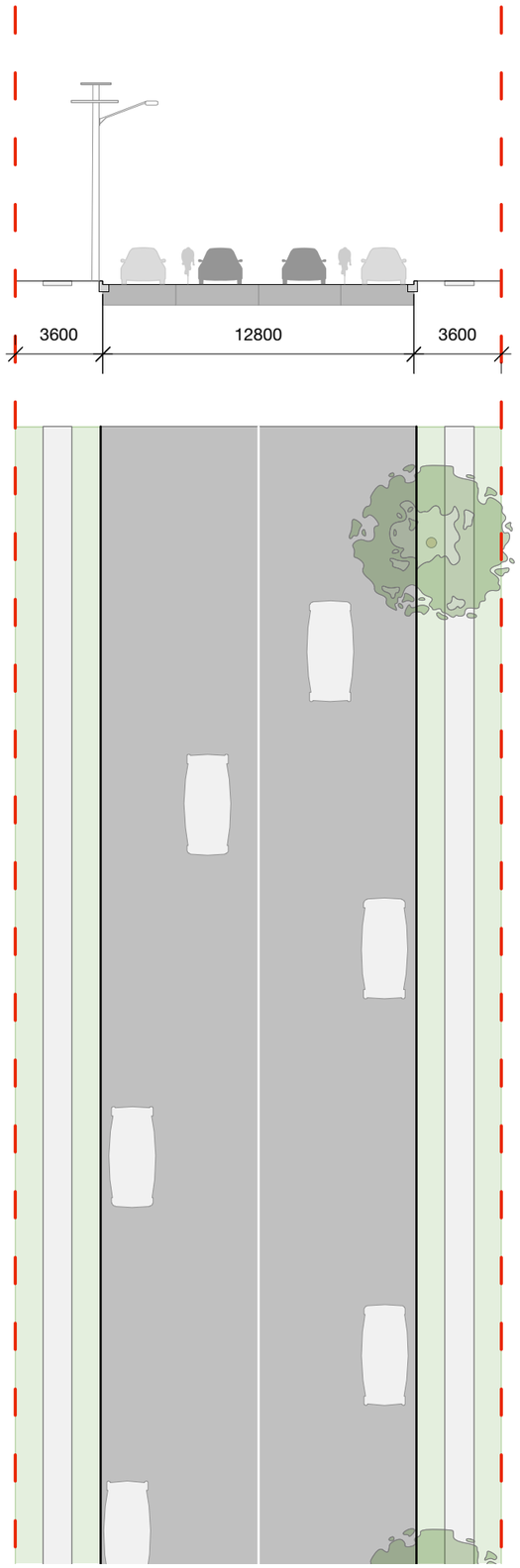
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0 3m 12m

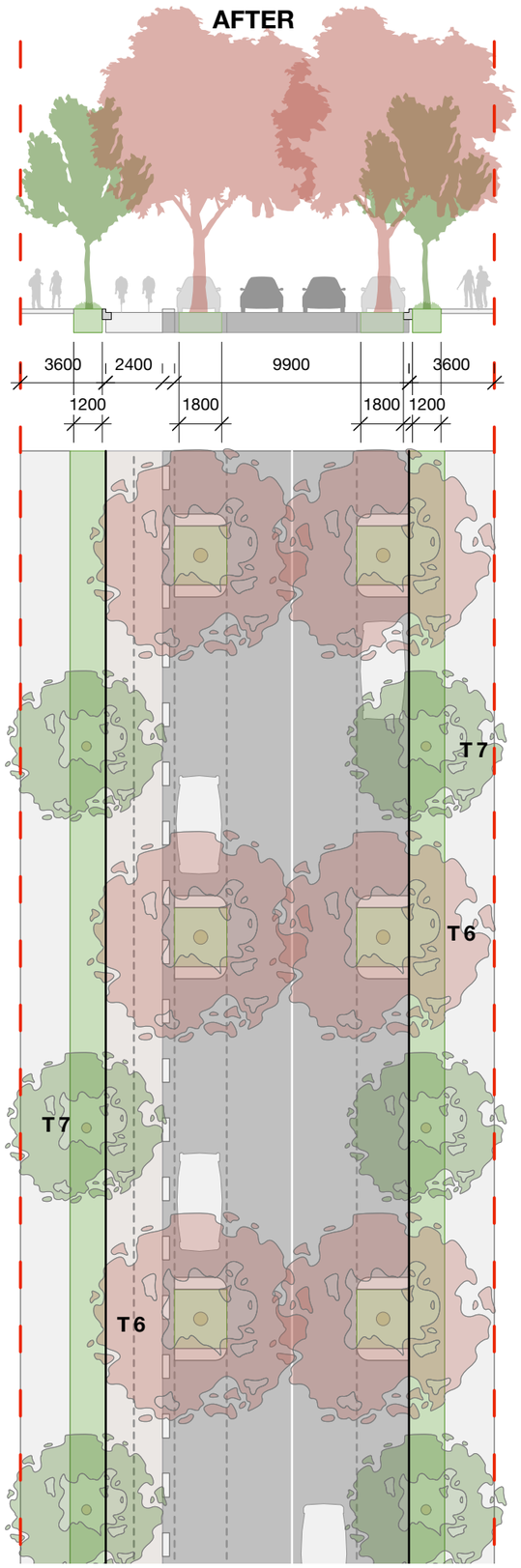
BEFORE







AFTER



STREET TYPE

C2

GREEN GRID WITH CYCLEWAY

1. Retain existing kerb lines;

2. Underground power lines;

3. Introduce a two way cycleway within the existing carriageway;

4. Plant large deciduous trees @ intervals along the parking lane;

5. Plant indigenous trees in the verge.

scale: 1:250 @A3

0 2.5m 10m

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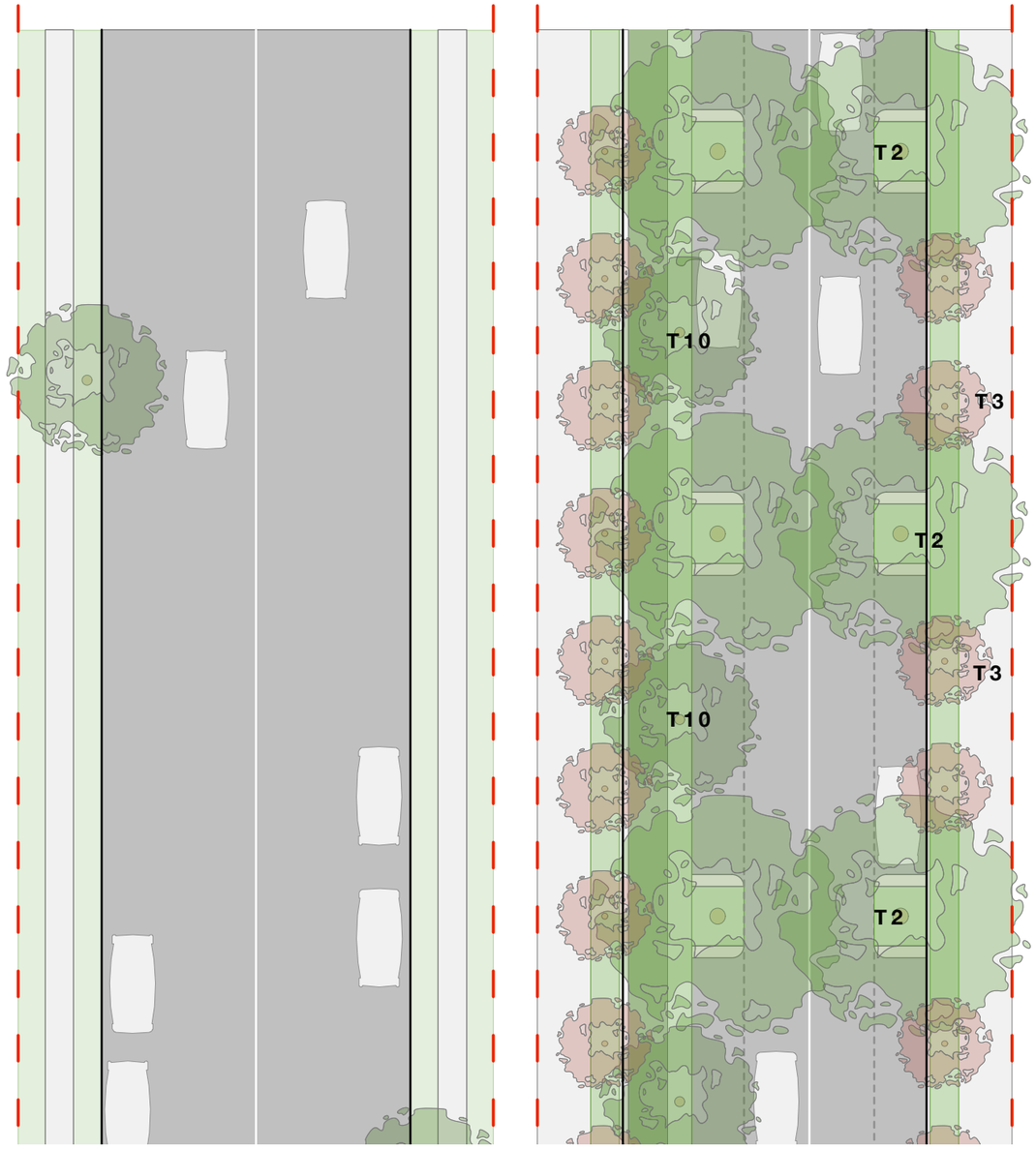
BEFORE





AFTER





STREET TYPE

C3

GREEN GRID AND BIOSWALE

1. Retain existing kerb lines;

2. Underground power lines;

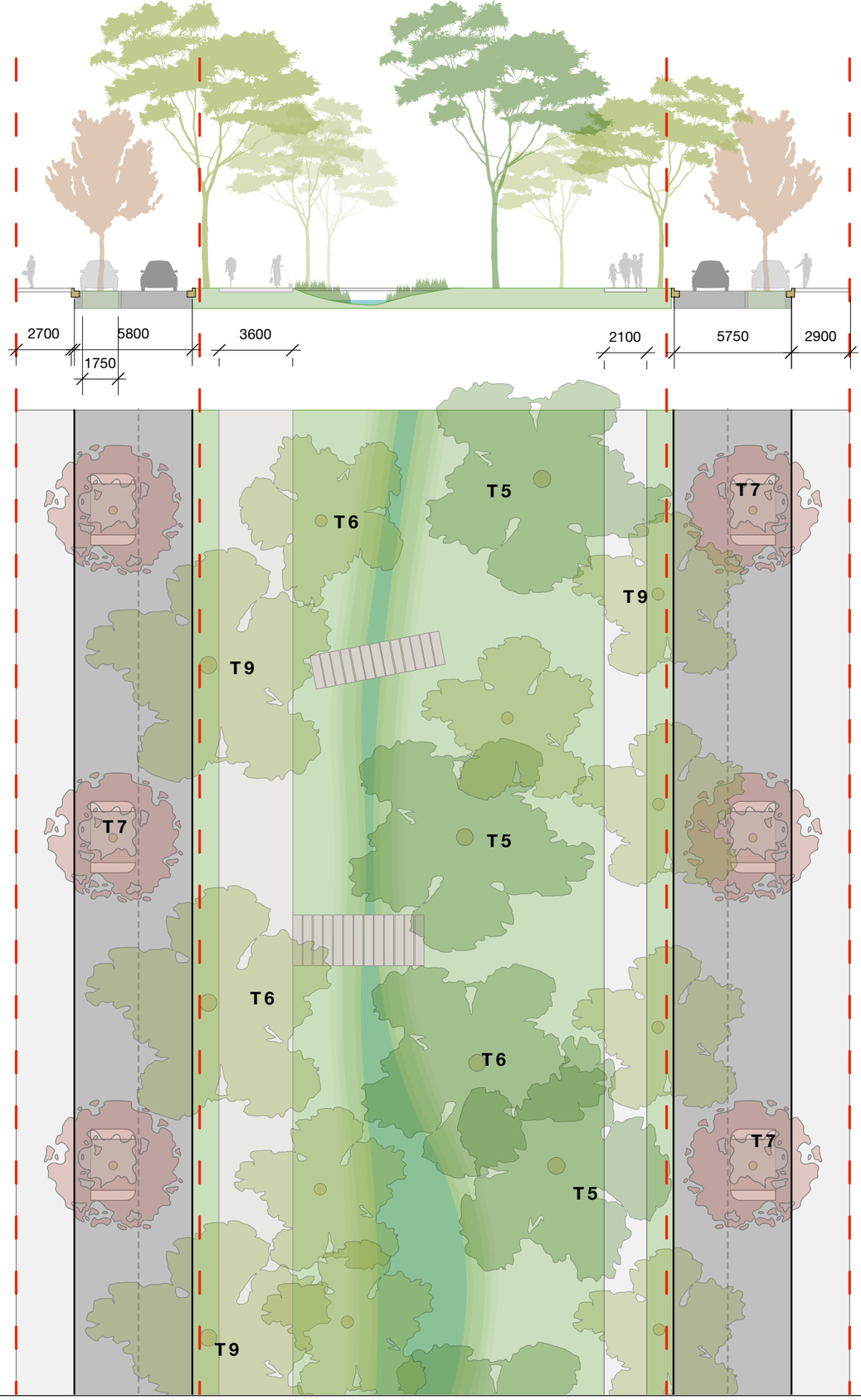
3. Introduce a bio-swale within the existing carriageway;

4. Plant large indigenous trees @ intervals along the parking lane;

5. Plant deciduous trees in the verge.

scale: 1:250 @A3

0 2.5m 10m



STREET TYPE

C4

LINEAR PARKWAY

1. New park edge streets;

2. Introduce a bio-swale replacing or in addition to the existing concrete storm water culverts;

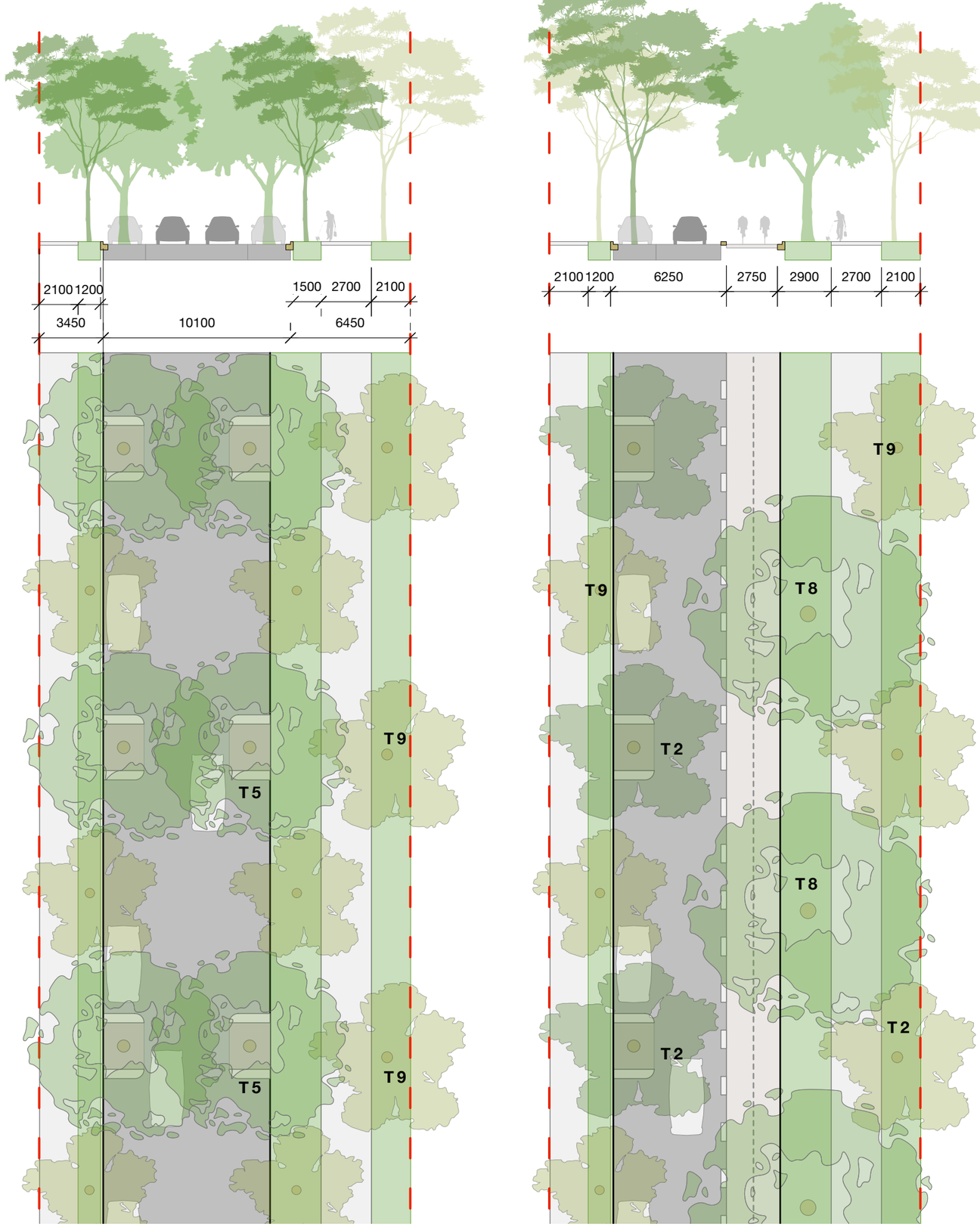
3. Plant large indigenous and deciduous trees in the new linear park

scale: 1:250 @A3

0 2.5m 10m

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STREET TYPE

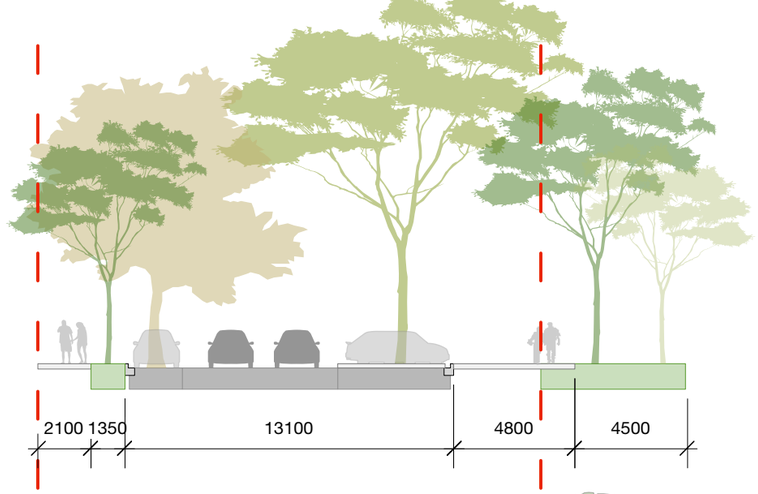
C5

OTHER NEW STREETS

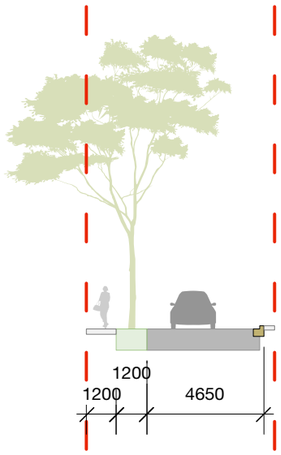
1. Retain existing kerb lines;
2. New two way cycleway adjacent the existing carriageway or new 45 degree parking lane adjacent a park;
3. Planting large indigenous trees at regular intervals along the parking lane;
4. Plant large deciduous trees in the verge; and
5. Underground or bundle existing power lines;

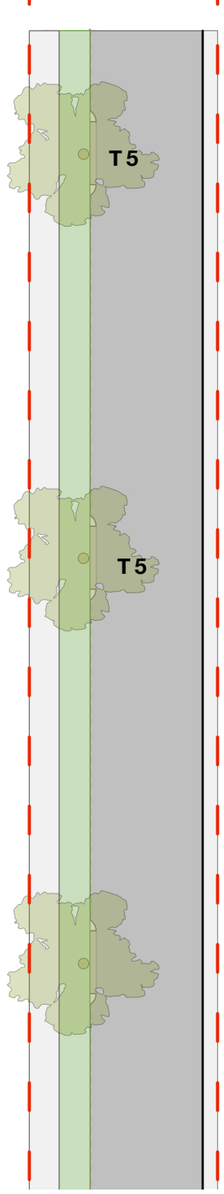
scale: 1:250 @A3

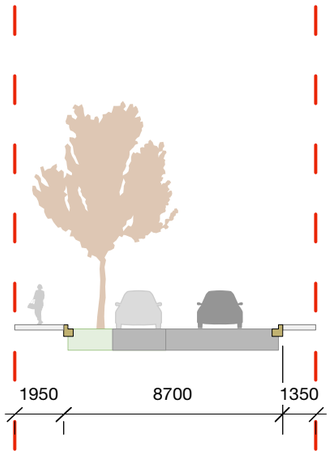
0 2.5m 10m

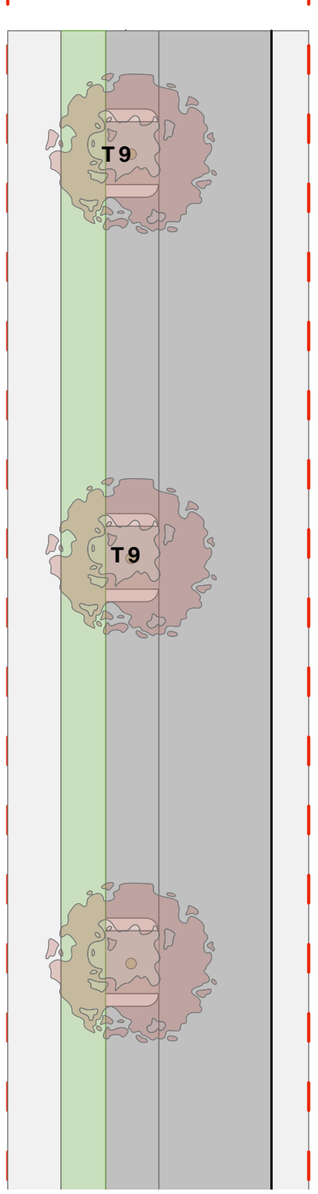












STREET TYPE

C5

LANES

Potential for Network of Lane ways beside Canterbury Road, an RMS Road and Facilitate Missing Middle Paired and Attached Housing

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A Variety of Significant Tree Plantings, such as:

Zelkova Serrata



Brush Box



Spotted Gum



Lemon Scented Gum



Blueberry Ash



Crepe Myrtle



Tilia Cordata



Grevillea Robusta (median)

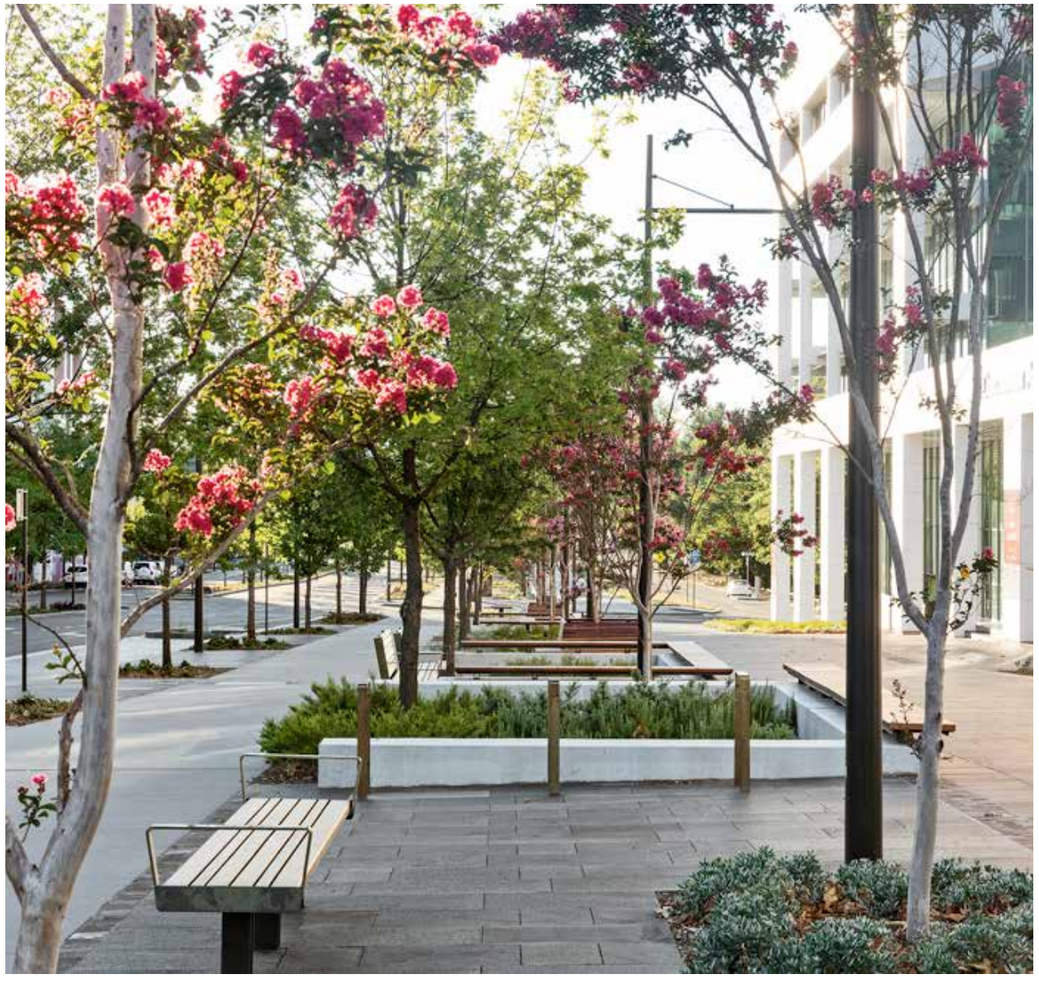


Material Details

Simple and robust material palette - precedent images



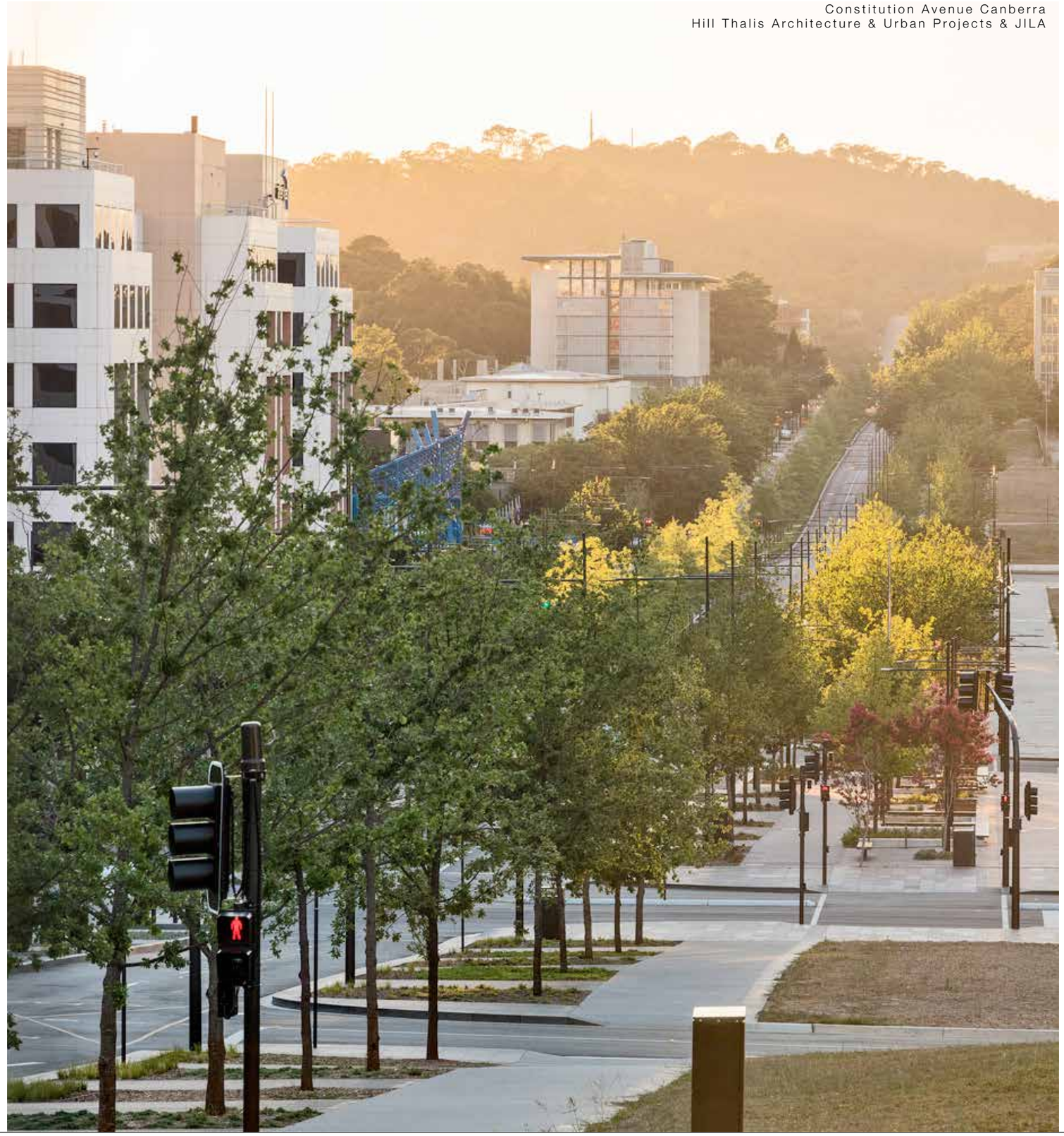
Campbell Section 5
Hill Thalis Architecture & Urban Projects & JILA



Constitution Avenue Canberra
Hill Thalis Architecture & Urban Projects & JILA



New Century Garden
JILA & Hill Thalis Architecture & Urban Projects



Constitution Avenue Canberra
Hill Thalis Architecture & Urban Projects & JILA

5.4 *heat island effects & urban forests*

Trees are intrinsic to making wonderful urban places, in streets, in parks and in private space. Trees temper urban heat island effect and clean polluted air, which are key considerations for this study of Canterbury Road.

Canterbury Road is largely denuded of trees. There is no evidence of a program of street tree planting along its length and consequently the environment provides very poor amenity for pedestrians and future urban development fronting the road. Canterbury Road itself is an unattractive address for new development.

There are statistical connections between :
- Traffic pollution and children's asthma and cognitive development;
- Traffic pollution and adults dementia; and
- Traffic noise and stress.

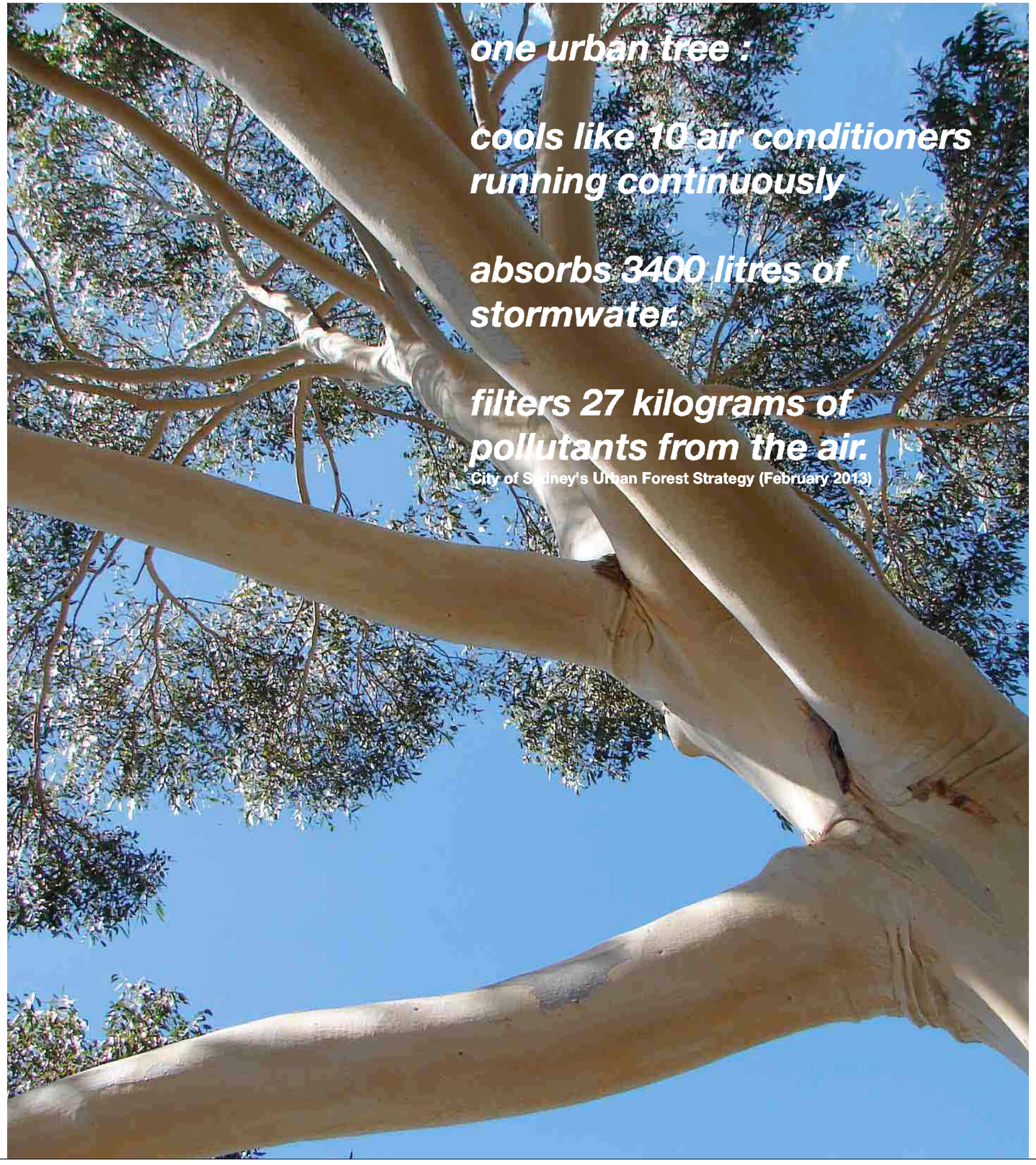
These conditions would be modified by dense layered street tree plantings.

Canterbury Road needs to be rehabilitated including major shade canopy, tree plantings to be amenable for housing.

We make the following recommendations:

To support healthy urban environments :

1. That Council prioritise the inclusion of tree plantings
   - for all streets, existing and new;
   - for all parks, existing and new trees;
   - for all redevelopments with less that 50% commercial occupied ground floor levels
2. That Council develop and promote the use of a rich palate of large urban trees, both deciduous and indigenous, for use in public and private space.



Trees bring many benefits to urban areas. The City of Sydney's Urban Forest Strategy (February 2013) outlines many of these; they are abbreviated below:

"Trees improve community health, well being and help build stronger communities. Some of the social and psychological benefits of tree planting include:-

- Creation of feelings of relaxation and well-being.
- Providing a link to nature and a source of delight; and
- Calming traffic, slowing speeds and providing a buffer between pedestrians and cars.

Trees improve the City's ecology and provide a higher quality urban fabric:

- Improving comfort and amenity as tree canopies can shade pedestrians, diminish traffic noise, screen unwanted views and reduce glare;
- Providing seasonal interest and natural beauty through foliage and their interesting leaf patterns, flowers, bark, fruit and canopy.

Trees improve the quality of our water ways:-

- Tree canopies, trunks, roots, and associated soil, filter polluting particulate matter from storm water and creeks; and
- Intercepting and reducing rainfall and runoff and reducing erosion of soils.

Trees reduce air pollution and improve thermal comfort, and microclimate of an area:-

- Removal of many gaseous pollutants by absorbing them with normal air components through the stomates in the leaf surface. (eg. Sulphur Dioxide, Ozone, Nitrogen Oxide)
- They also capture and remove particulate matter and dust from the air;
- Shading of pavement, cars and buildings, thereby reducing our energy consumption and hydrocarbon emissions;

Trees store and sequester carbon:-

- A single mature tree can absorb carbon dioxide at a rate of 21 kg/year and release enough oxygen back into the atmosphere to support 2 people's needs. (McAliney, M, 1993).

Trees contribute to the local economy:

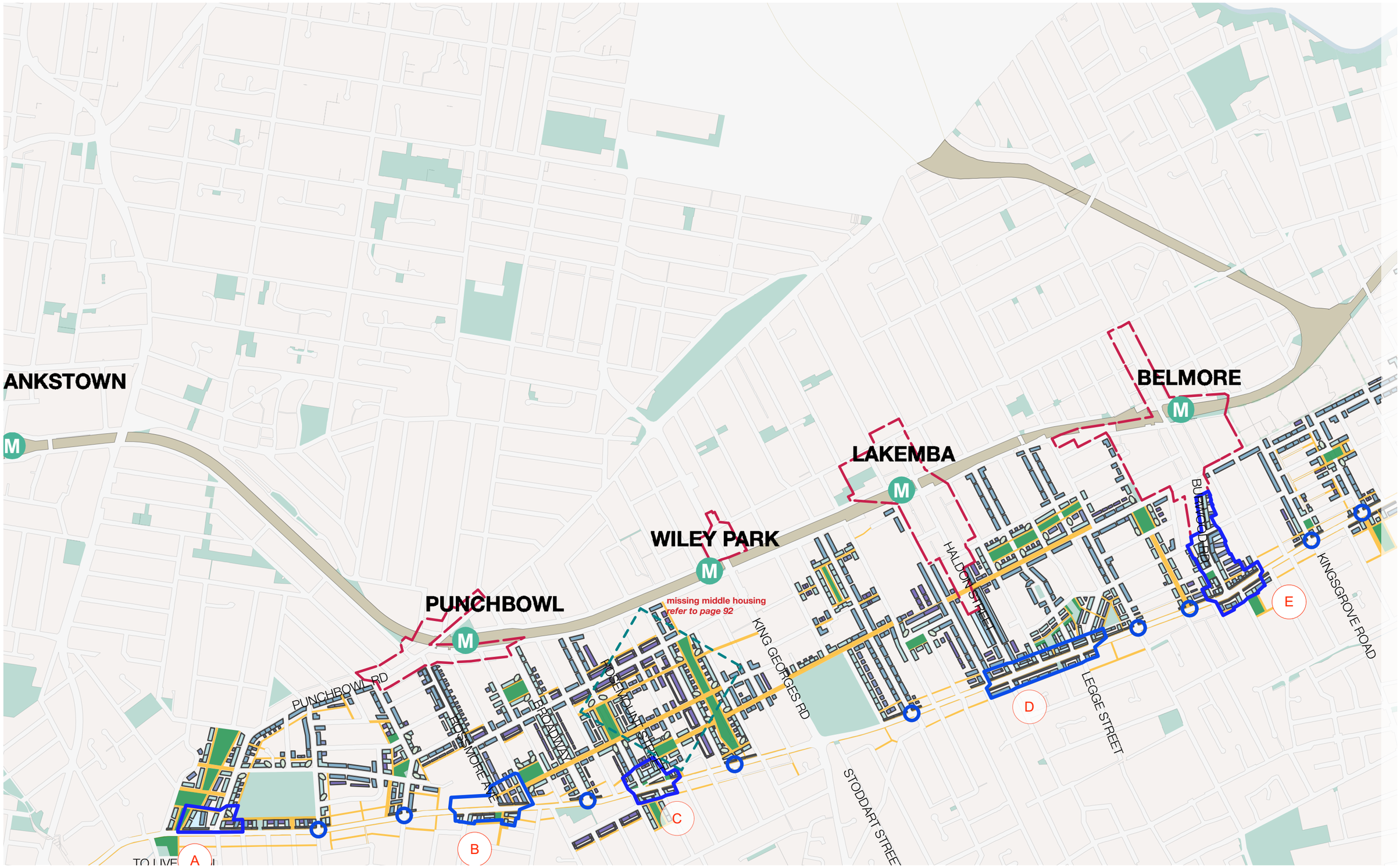
- Improving economic performance by increasing the attractiveness of businesses and tourism areas. People typically linger, shop and dine longer in tree-lined streets.
- Shops, apartments and housing in well planted areas usually attract higher rents and sale prices; and
- Reducing energy consumption, through shading and reductions in the "urban heat island effects."

(Web sources visited in March 2017)
http://www.citylab.com/commute/2015/03/the-alarming-impact-busy-roads-have-on-cognitive-development/386947/
http://www.smh.com.au/national/health/living-near-busy-roads-increases-dementia-risk-lancet-study-20170105-gtm8r1.html

6.0

re imagining greater canterbury road corridor

possibilities for new making new public space and urban form north of canterbury road

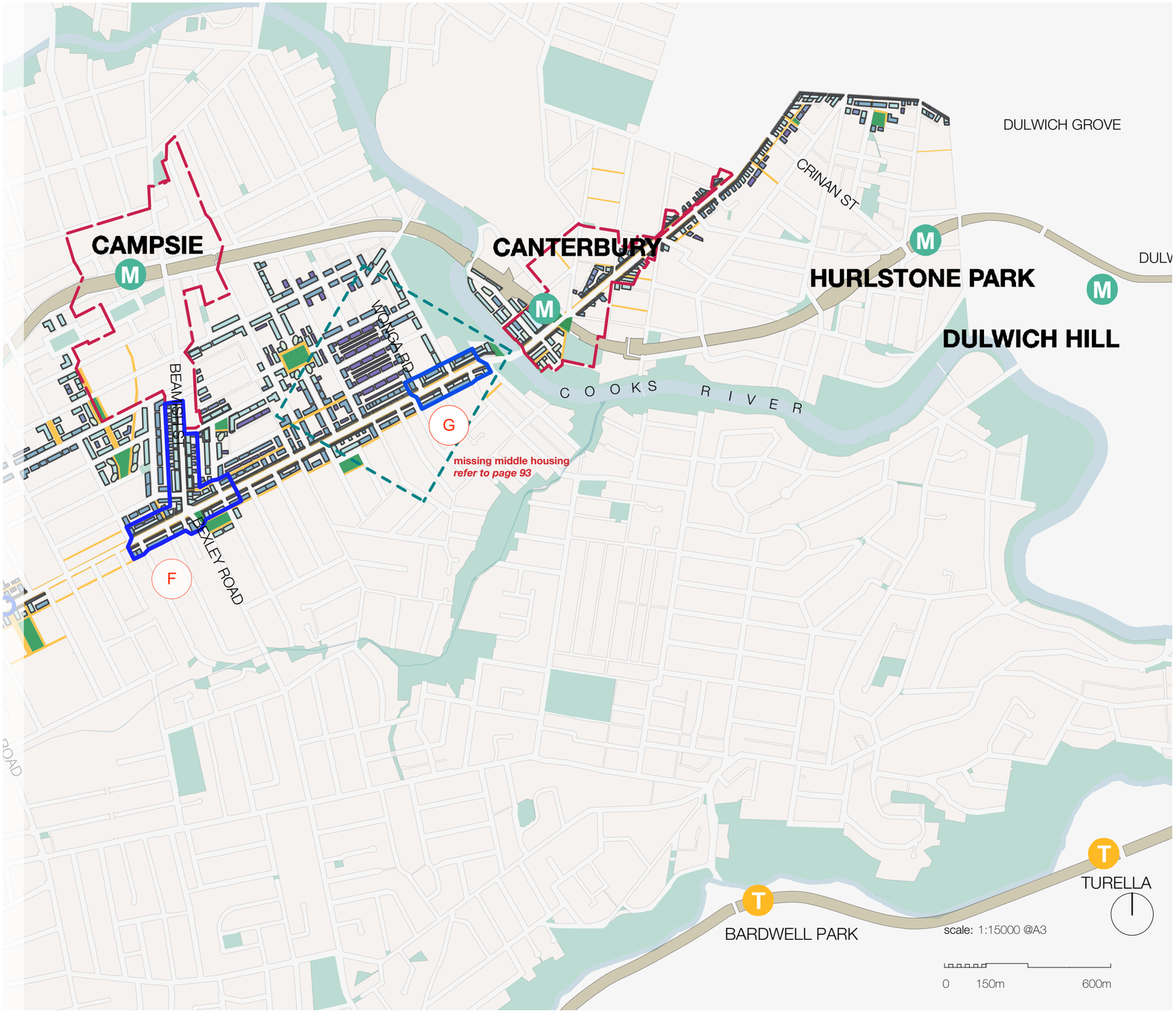


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6.1

canterbury road plan



New streets

New parks

Indicative Built Form

Sydenham to Bankstown Urban Renewal Corridor

Main street & Mixed Use

Localities

Centres

CENTRES

New and existing centres would focus activity

- A @ PUNCHBOWL RD District
- B @ ROSSMORE AVENUE Local
- C @ ROSEMONT STREET District
- D @ HALDON STREET - Local
- E @ BURWOOD ROAD Neighbourhood
- F @ BEAMISH STREET Regional
- G @ CANTERBURY Regional

Built Form

The built form proposed for Canterbury Road will be focused at the identified Centres. Additional built form is anticipated to reinforce connective streets critical to linking Canterbury Road to its hinterland to the north. Built form would be focused on making the centres initially.

The height and separations of the built form demonstrated reconcile the requirements of SEPP 65 and the Apartment Design Guide with amenity in public spaces.

These built form groupings strategically reinforce the Green Grid, park connecting streets and cycle streets a are elaborated in Section 5- Greater Canterbury Road Corridor - Possibilities for City Making.

6.2

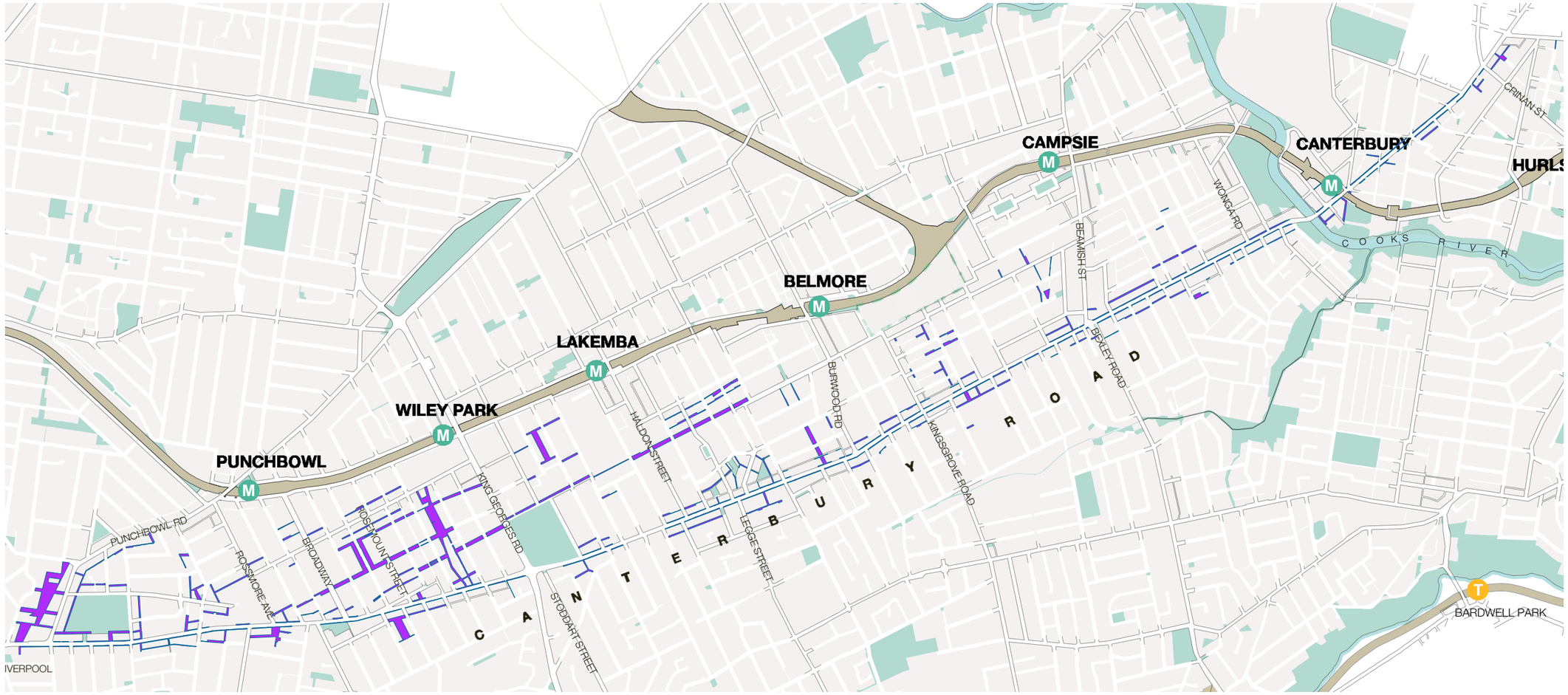
delivery of new parks & public domain enhancements

The recommended new parks, park enhancements, new streets and streets enhancements should be the subject of a detailed strategy for the funding.

This strategy should examine the establishment by Council of a public domain fund for new parks, open space and public domain enhancements and new street and lanes.

A range of 'value capture' mechanisms for contributing to the fund should be explored including Section 94 contributions, hypothecation of rate revenue increases attributed to urban renewal, and increases in dwelling numbers in the corridor. This analysis should also examine the enhanced land value attributed to the new parks and public transport improvements associated with the new metro infrastructure.

6.2a Potential Public Land Dedications



To provide a variety of well distributed local parks and connective streets, lots could be required to make dedications* to qualify for development uplift.

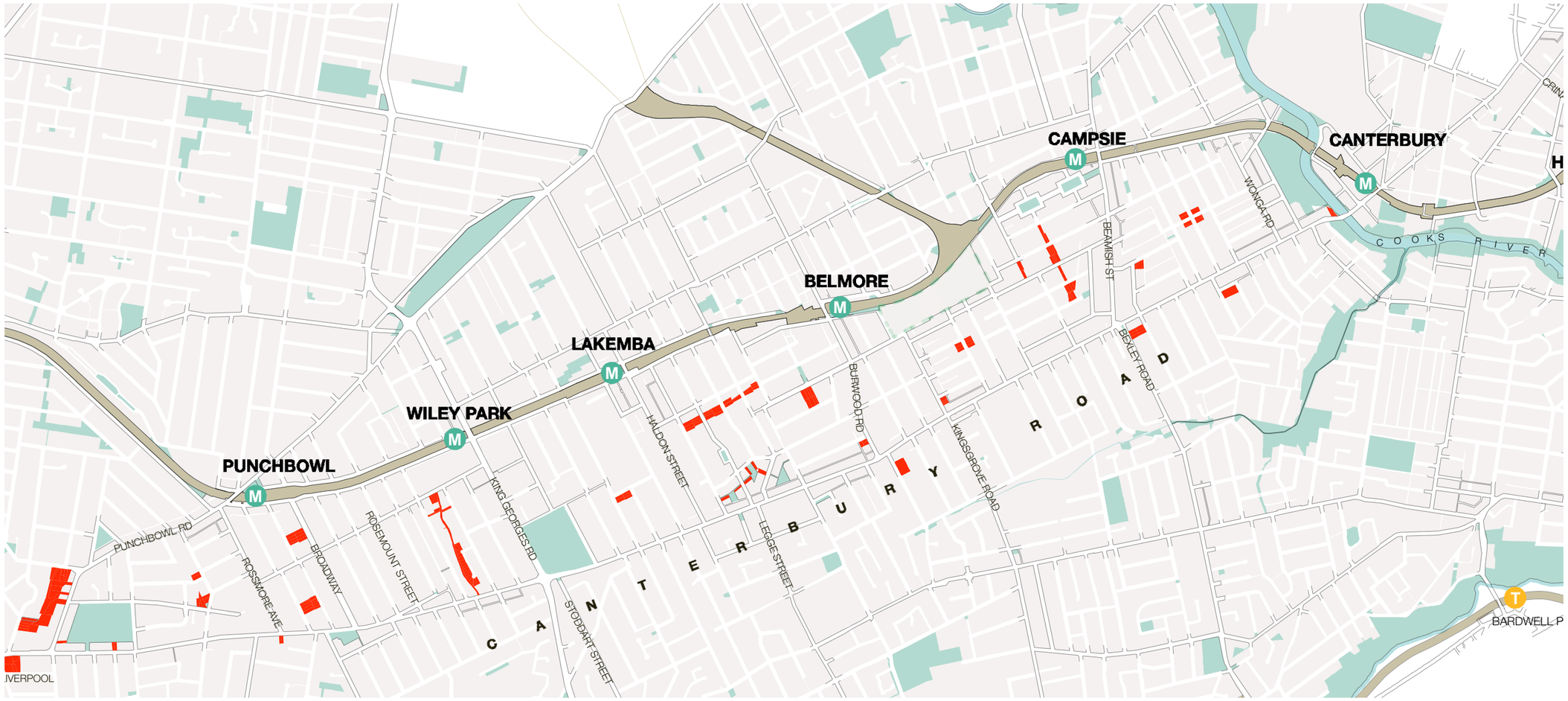
27.8 Ha public space from a portion of 2077 lots is shown

scale: 1:25000 @A3

0 250 m 1 km

dedications

6.2b Potential Land Acquisitions



To provide a variety of well distributed local parks and connective streets, lots could be acquired.

15.14 Ha public space from 230 lots is shown

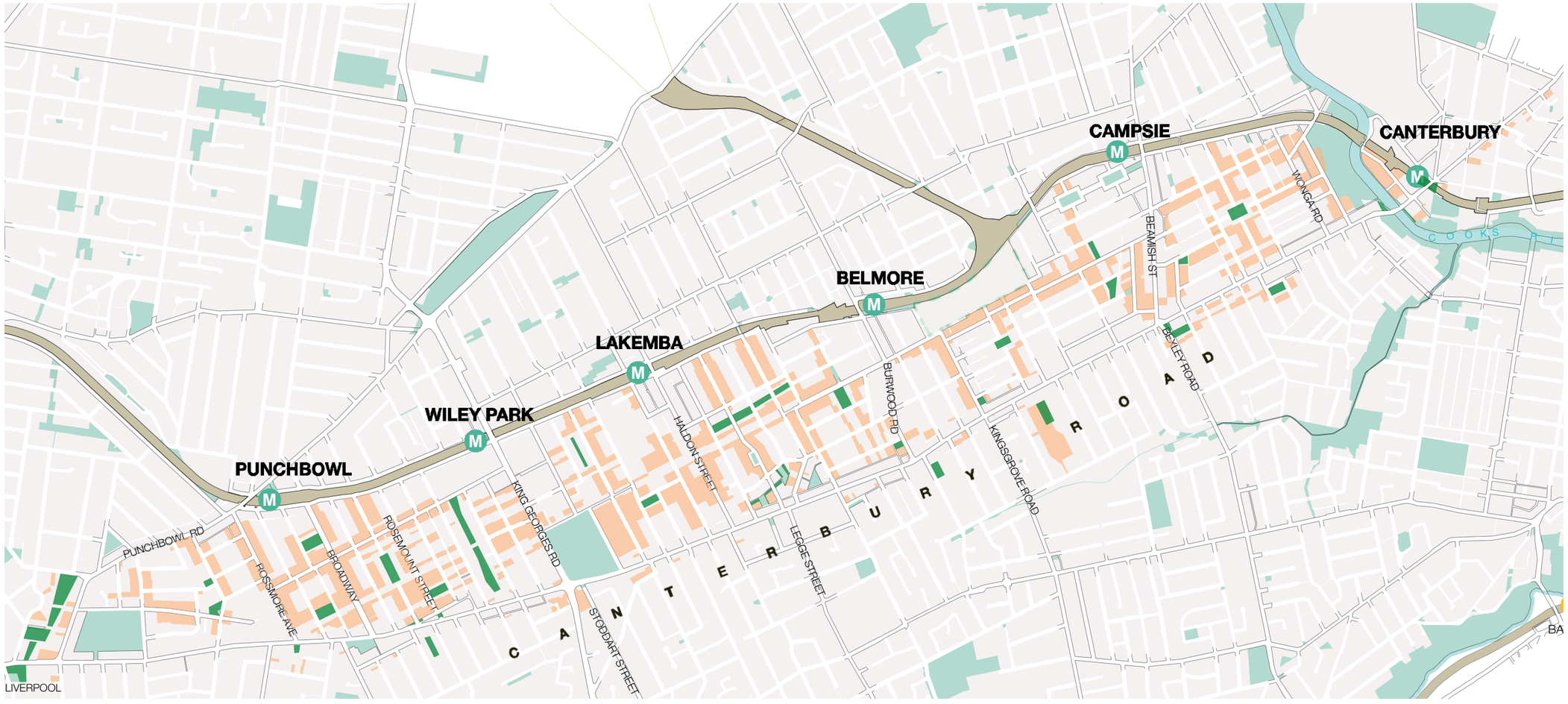
scale: 1:25000 @A3

0 250 m 1 km

acquisitions

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6.2c Potential Contributions



Lots which benefit from new public space and increased amenity could be required to make contributions, such as land set backs and street improvements in order to qualify for development uplift.

1455 benefiting lots are shown.

scale: 1:25000 @A3

0 250 m 1 km

contributions



6.3 a
‘Missing-Middle’ Torrens Title housing

retrofitting denser housing in an existing street structure which includes rear lanes

Consolidation of an existing subdivision network with rear lanes. Apartments book end each block



Source: NSW Planning



SJB Architects; Terrace Housing Blackwattle Bay

Extending the existing street network of Glebe, the development reinstates the foreshore park for the local community.



6.3 b
‘Missing-Middle’ Torrens Title Housing

introducing rear lanes to service denser housing forms

Provide new rear lanes for site servicing

– car parking + rubbish collection

Limited quantities of Torrens Title terrace housing and semi detached housing can be provided in some locations. These types of housing require rear lane access for site servicing, to protect the street from “death by driveway.”

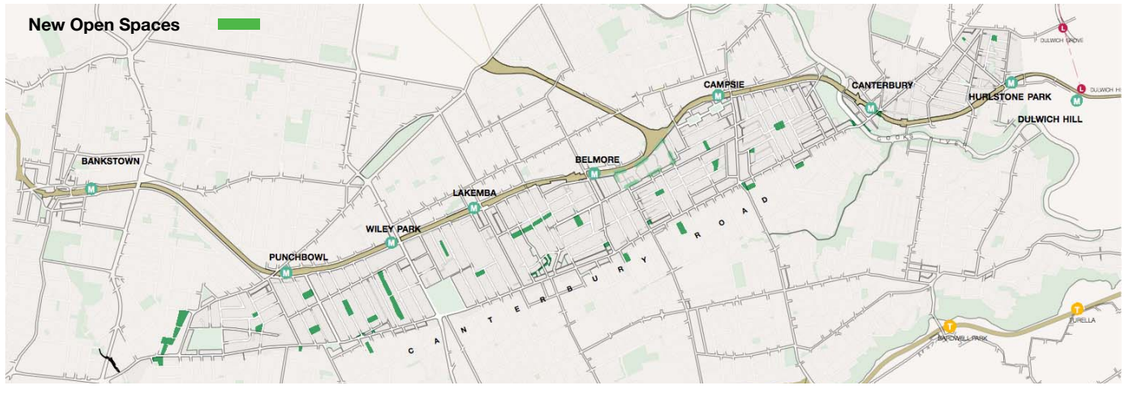


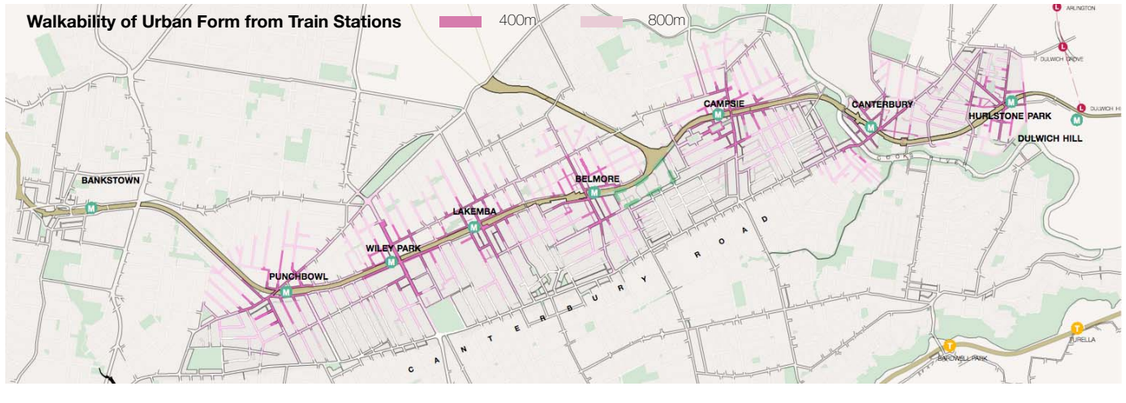


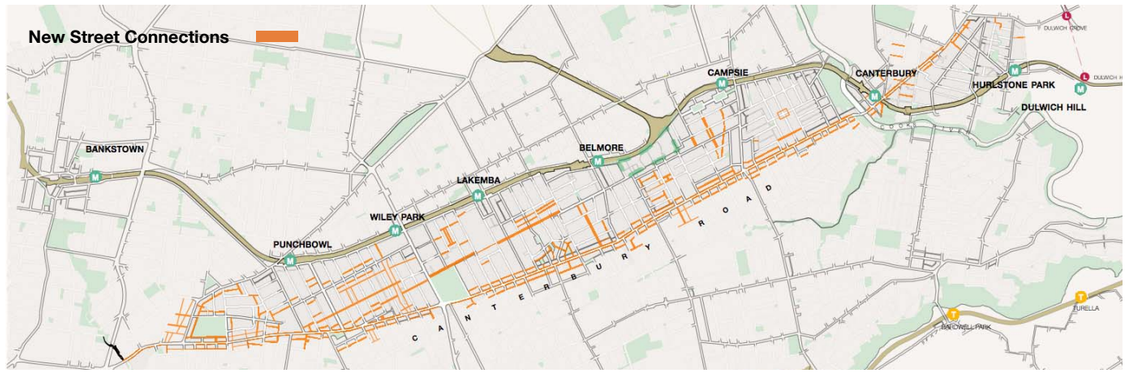
Redshift Architects; Terrace Housing Dulwich Hill

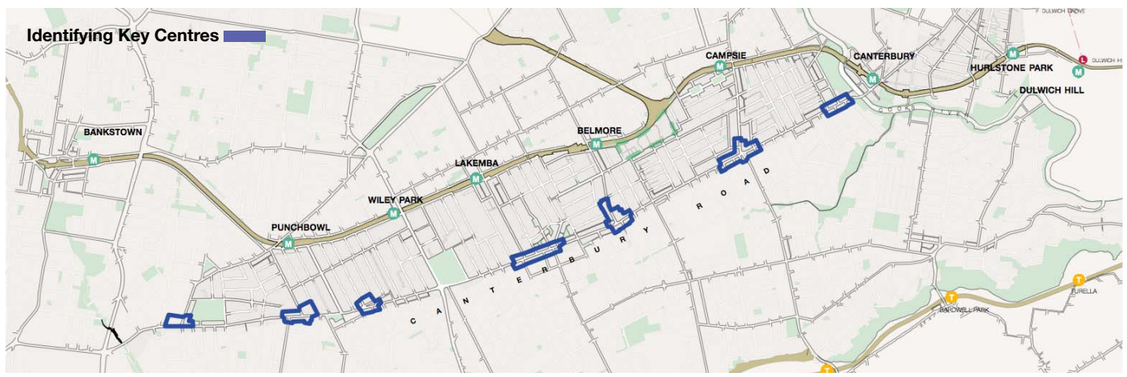
Without a rear lane, the street frontage is dominated by car parking and garages.

7.0
recommendations









Canterbury Road Corridor

Canterbury Road urban renewal

1. That the Canterbury Road be recognized as:

- An integral part of the Sydenham to Bankstown Urban Renewal Corridor;
- As one of the principal radiating commercial corridors of Sydney for bulky goods and mixed commercial uses; and
- As a corridor, like Princes Highway and Parramatta Road that will see major construction of mixed use and higher density residential redevelopments which means that their character, functionality, transport and amenity needs to be reconsidered afresh.

2. Significant new capacity for housing over and above current planning controls to achieve housing targets be provided for within the greater Canterbury Road corridor.
3. It be recognized that while Canterbury Road itself is not currently suited to residential intensification the corridor has many locational and inherent physical attributes that make it suitable with appropriate public domain investment.

Density linked to amenity and accessibility

4. Redistribute potential high density housing along Canterbury Road to a series of centres at key cross streets (see Recommendations 7-11 below) which connect to the train stations to the north and focus urban renewal along these north south streets.
5. Provide a more nuanced approach to the distribution of density that delivers a strong alignment of urban density and amenity provided by the ‘green grid’ initiatives.
6. Provide for higher density forms such as judicious siting of 6-9 storey apartment buildings adjacent missing middle forms to overlook the new network of parks and green streets and also to provide a possi ble mechanism for the delivery of new parks and public domain enhancements through the provision of floor space and height bonuses.

Centres of urban life

7. A more positive urban strategy be progressed to actively facilitate more intensive urban centres at key cross streets which lead from Canterbury Road to the railway stations on the Bankstown in accordance with proposals contained within this report;
8. Planning controls for these new mixed use centres provide for residential intensification in association with newly created open space and retail centres;
9. The main centres be anchored by appropriately scaled supermarkets as per the economic study findings;
10. Bulky good retail and showrooms be provided for and encouraged along the length of Canterbury Road;
11. Amend current planning controls to generally prevent further multi-storey housing outside these centres.

Canterbury Road transformation into a green boulevard

12. Transformation of Canterbury Road within the identified urban centres as proposed in this report involving:

- Carriageway widening to more readily enable right turn movements and central median planting
- Verge widening associated with redevelopment of individual sites creating a new street edge and the establishment of a rear lane network north and south will enhance accessibility and safety.



The Goods Line Haymarket, Aspect, CHROFI & AR-MA Studios



Marrickville Shopping Centre



Chippendale; Heritage and Mixed Use Redevelopment, Jean Nouvel



Queen Street Woollahra

13. A business case be prepared for upgrading Canterbury Road, (initially within the centres and then for the complete length of Canterbury Road) that considers the Citywide benefits and costs of:

- Continuous central median with right turn and and left turn storage and its enhancement to traffic function and reduction in traffic congestion;
- The inclusion of large canopy trees along the median and in widened verge and setback areas and its reduction on urban heat island effect, enhancement of amenity for pedestrians and residents;
- Moderating noise and pollution;
- Improving pedestrian crossing safety by providing a central refuge along its entire length;
- Value uplift for the corridor; and
- Encouraging further housing and job growth in the corridor oriented to public transit.

Employment and jobs

14. Existing employment precincts be protected and the role of Canterbury Road as an enterprise corridor be maintained;
15. Mixed use development in association with bulky goods and showrooms be encouraged and provided for in planning controls;
16. Within centres residential uses not be permitted on the ground floor fronting Canterbury Road;
17. Future light industrial development along the corridor isn't compromised by residential redevelopment;
18. Office floorspace is encouraged to concentrate within the Canterbury Town Centre adjacent the future Metro Station.

Greater Canterbury Road Corridor;

Area between Canterbury Road and the Sydenham to Bankstown railway line

New open space and streets

19. Increases in urban density and intensity within the corridor be combined with an adequate supply of parks and public spaces that meets emergent community needs.
20. A new network of new local and neighbourhood parks and new cross connecting streets be provided generally in accordance with proposals included in this report and that a detailed strategy for funding be developed.

Urban form

21. The existing planning controls for the corridor be amended in light of the findings of the review of recent and proposed residential and mixed use development;
22. Based on the findings of the review a form based code be developed that is targeted at delivering urban and built form that exhibits design excellence.

Contribution to affordability

23. Ensure innovative approaches to affordability such as 'Nightingale' housing project are enabled by new planning controls.

glossary

Green grid (public space networks)

Consolidates networks of parks and public spaces connecting multi-purpose open spaces to each other and to places where people live and work. They are being recognised as essential to the well being of people living in cities including Sydney, London and New York.
The NSW Government Architect's Office has published a graphic report demonstrating an expanded Green Grid in Parramatta.

http://www.pcal.nsw.gov.au/__data/assets/pdf_file/0003/169212/FitNSW_2015_Barbara_Schaffer.pdf.

The greater Sydney Commission sees the importance of the Green Grid for greater Sydney. https://www.greater.sydney/digital-district-plan/907

Green Streets (ecology and sustainability)

Include significant street tree plantings, swales, cycleways, and generous footpaths. They are an antidote to streets biased toward traffic flow, in order to diversify the function and appearance of streets and be fabulous social spaces.

Missing middle housing (lower density housing types)

Lower density housing including semi detached, terrace, clustered housing types, two and three storey apartments and the like. This type of housing can be alienated and excluded where undifferentiated higher housing densities are adopted over extensive urban areas.

Nightingale (affordable housing)

Nightingale Housing is a social enterprise founded to advance alternative development model, a cooperative of owner builders, for more affordable sustainable high-quality housing. http://nightingalehousing.org/

Snorkel Bedrooms (low amenity bedrooms)

Set deep in the floor plan and lacking environmental amenity. They are situated mostly behind another room, with a 3-4m long passage connecting to the exterior wall for natural daylight and outside air.