SJB Urban

Ku-ring-gai Local Character Background Study

Draft Broad Local Character Areas

Methodology and Analysis

Prepared for
Ku-ring-gai Council

Issued
11 March 2021

Level 2
490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

Ref: #6267
Version: 02

Prepared by: TH, JM
Checked by: JK

SJB would like to acknowledge the traditional custodians of the land on which we live and practice and pay our respects to elders, past, present and future. In particular, we would like to acknowledge the 60,000+ years of continuous engagement of this land by Aboriginal and Torres Strait culture.

The journey of Aboriginal and Torres Strait Islander people and their knowledge of this land is incredibly rich – its importance to the future of our country should never be underestimated.

Contact details

SJB Architects
Level 2
490 Crown Street
Surry Hills NSW 2010
Australia

T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

SJB Architecture (NSW) Pty Ltd
ABN 20 310 373 425
ACN 081 094 724

Adam Haddow 7188 John Pradel 7004

Certified Management Systems

ISO 9001:2015	Quality Management System
ISO 45001:2018	Occupational Health & Safety Management System
ISO 14001:2015	Environmental Management System

Contents

View east from Roseville Station

Executive Summary

SJB have been engaged by Ku-ring-gai Council (KC) to undertake research and identify Broad Local Character Areas for the Ku-ring-gai Local Government Area (LGA).

This work is in response to the Ku-ring-gai Local Strategic Planning Statement (KLSPS) Planning Priority K12. The objective of this priority is to manage change and growth in a way that conserves and enhances Ku-ring-gai's unique visual and landscape character . There are four Actions related to this Planning Priority (KLSPS, page 94) as follows:

Action 1 - Define Ku-ring-gai's unique visual and landscape character through community engagement

Action 2 - Undertake a Local Character Study in accordance with the Department of Planning, Industry and Environment's Local Character and Place Guidelines February 2019. The study will include investigation of areas of special landscape, views and vistas, visual quality, topography and the Urban Forest (including bushland, tree canopy, street trees, gardens). It will also consider Green Grid links and biodiversity corridors.

Action 3 - Implement recommendations from the Local Character Study

Action 4 - Prepare Local Character Mapping for LEP Overlay and Local Character Statements for DCP in collaboration with Department of Planning, Industry and Environment

This Background Study is primarily focused on the analysis and identification of Ku-ring-gai's physical characteristics , relating to Action 1, noted above. The study is intended to provide the basis for further research into 'local character' in the future. It is important to note that this study does not include a detailed examination of the social and cultural characteristics of the LGA, which is sought in the Department of Planning Infrastructure and Environment's (DPIE) Local Character and Place Guidelines, 2019.

Preparation of a Local Character Study, as per Action 2, including 'desired future character statements', will be the subject of a future study and further community engagement.

Home in Turramurra

Local Character Area Analysis

Local Character Area Analysis

1.1 Overview and Methodology

To isolate and reduce the complexity of areas throughout the LGA for investigation of Special Character Areas, an analysis of physical characteristics that could be mapped has been undertaken.

These characteristics were all developed from dozens of data sources procured from SIXMaps, Google, Mapbox, HERE, and Local, State and National datasets. Computational analysis and GIS methods developed in-house were used to analyse and recalculate the data based on Statistical Area 1 boundaries, as provided by the Australian Bureau of Statistics. Utilising the same boundaries across the entire LGA and through the total of 32 calculated characteristics allows the data to be interpreted at the same level regardless of the content or source. This means we can reduce the granularity of the LGA to 279 distinct areas of investigation. Refer to Figure 02: Mapping Methodology.

The combined dataset was then fed through a statistical analysis modeller (SAM). This method identifies similar characteristics across the set and outputs distinct clusters of similar areas. The result of this is a map that highlights similar areas across the entire LGA based on similar characteristics, with the intent to reduce complexity and scope when exploring potential character areas along with providing an insight in to Ku-ring-gai's character through a subjective lens.

The final output of this process is a subjective analysis of the cluster mapping to amalgamate the clusters into several distinct areas and to identify the reasons as to why these areas are similar in terms of their physical attributes. This introduces a series of Broad Character Areas within the LGA.

Local Character Area Analysis

Figure 01: Mapping methodology

1.2 Cluster Mapping

The result of the cluster mapping presents eight (8) different clusters of similar characteristics. Each cluster is shown as a distinct colour on the map on the opposite page.

These clusters have been identified through the use of computational and statistical analysis methods that find similarities among numeric data, hence the only characteristics that can be fed to the model must be measurable. Therefore, this process also relies heavily on data accuracy to return accurate results. As can be seen, there are outliers within the cluster mapping that would have been as a result of lack of or incorrect data, however the overall quality of the results is high.

32 unique characteristics have been used for the model falling within the following categories:

- Landscape and topography
  - Slope and variance
  - Vegetation cover
- Subdivision patterns
  - Street orientation
  - Lot areas and dimensions
  - Neighbourhood morphology
- Land use and accessibility
  - Zoning and planning controls
  - Points of interest and amenity
  - Access to services and transport
- Built form
  - Heritage and strata
  - Building size
  - Building offsets and separation

A single category may have multiple characteristics fed into the model.

The following is a description of each cluster and their similar characteristics and a subjective understanding of the reasons behind these outcomes.

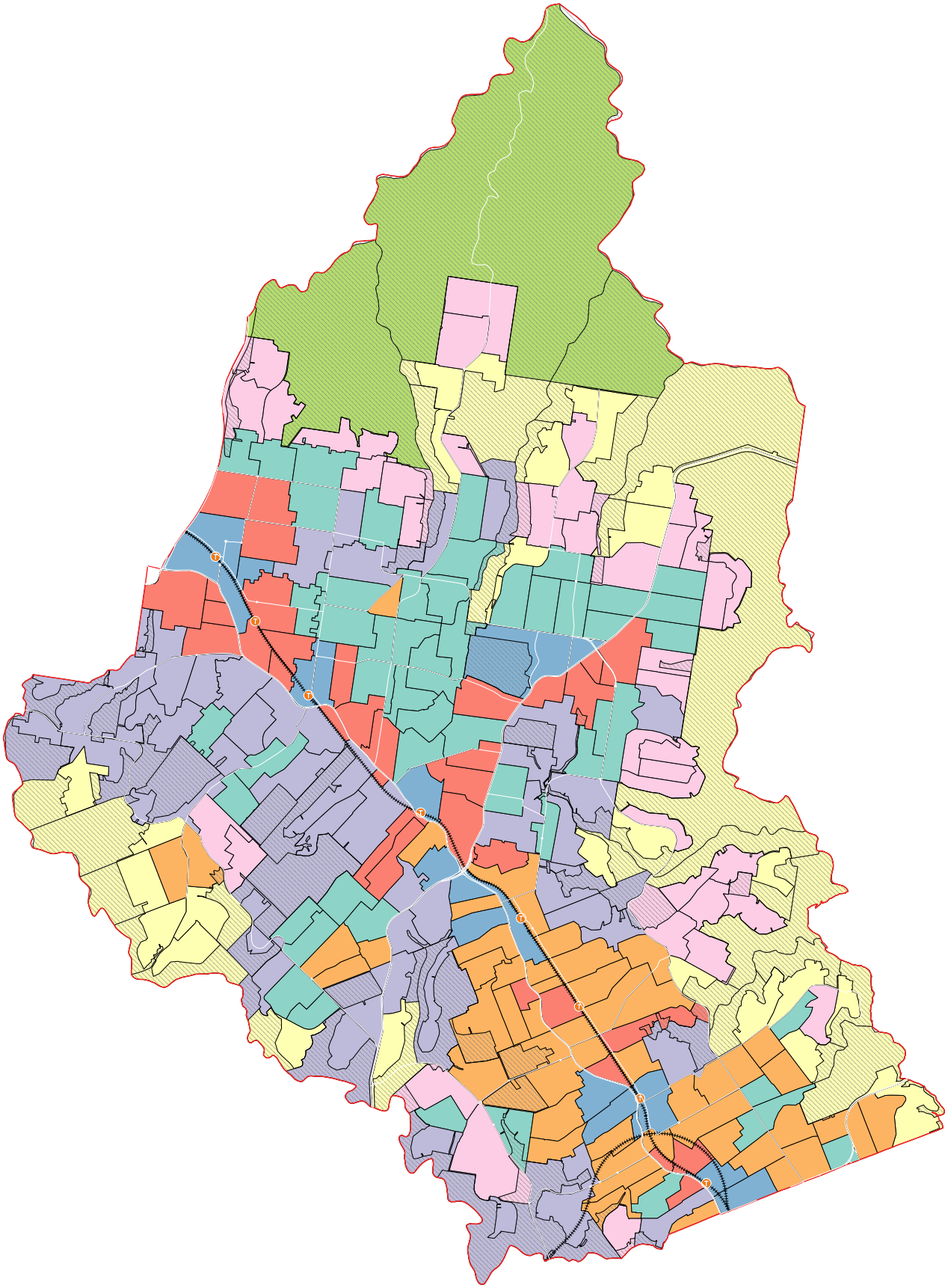

Figure 02: Cluster mapping

1.3 Teal Cluster

Preliminary Observations

These areas are typically very consistent and less diverse in their characteristic values when compared to other clusters. The majority of these areas are in the northern part of the LGA around Turramurra and St Ives with few areas scattered throughout the remainder of Ku-ring-gai.

These characteristics could mostly be attributed to the historical land use and topography of these areas. The large dominant group to the north is primarily on former agriculture land. This land would have been used so due to the flatter land being easier to farm. Due to these farming activities, there would have been large scale clearing of trees and vegetation to maximise farming yields.

As these areas transformed into urban residential uses, the flatter land and lack of trees would have made construction easier and cheaper. This would have resulted in denser and more consistent development, particularly as this land would have most likely been early land release. This is in contrast to heritage areas in Roseville and Lindfield which have grown more organically.

Characteristics

- Lower vegetation cover
- Lack of zoning diversity
- Less varied topography
- Higher density (compared to other low density residential zones)

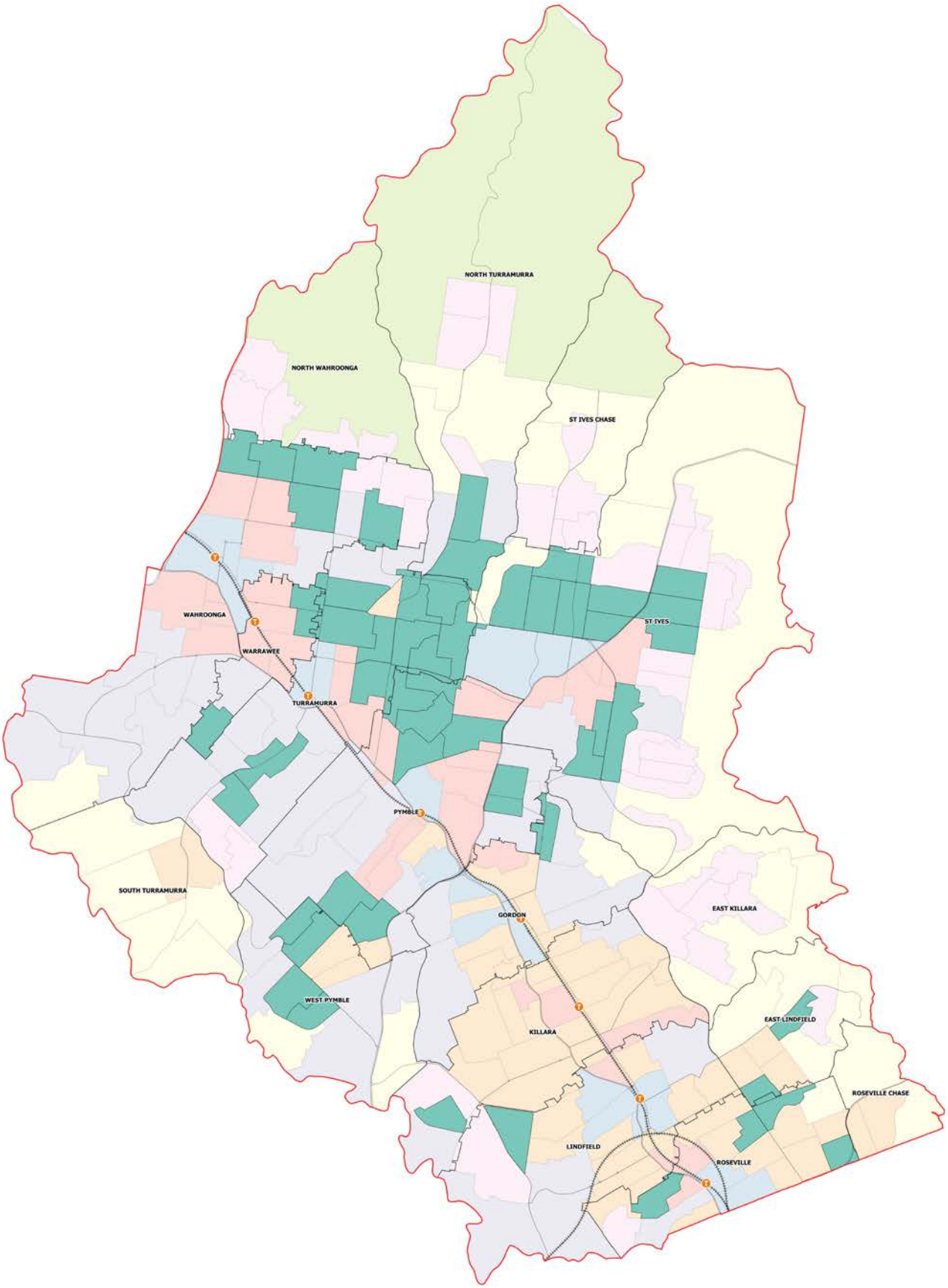

Figure 03: Teal cluster

1.4 Pink Cluster

Preliminary Observations

Primarily located within the “finger tips” of Ku-ring-gai, these areas are all on the periphery of the urbanised area of the LGA and close to or mostly surrounded by dense bushland and national parks.

Being located on the edges of the LGA’s urban footprint adjacent to bushland, it appears evident that the topography is a significant shared characteristic. Surrounded by dense bushland, these areas mainly feature extremely varied and steep topography. Considering that the complexity of this topography has a direct impact on the constructability of buildings, houses in this cluster are typically be more diverse in built form and cover less of their lot.

Streets and the urban morphology are shaped by the topography as opposed to being aligned on a logically planned grid. Irregularly shaped sites also support unique built form, less consistent spaces between buildings and a different public domain character. The close proximity to bushland also contributes to character by increasing tree canopy coverage, particularly in steeper areas that have seen less development and therefore retention of large trees and vegetation.

Characteristics

- Diverse lot areas
- Low lot coverage
- Diverse topography
- Steep slopes
- Diverse built form

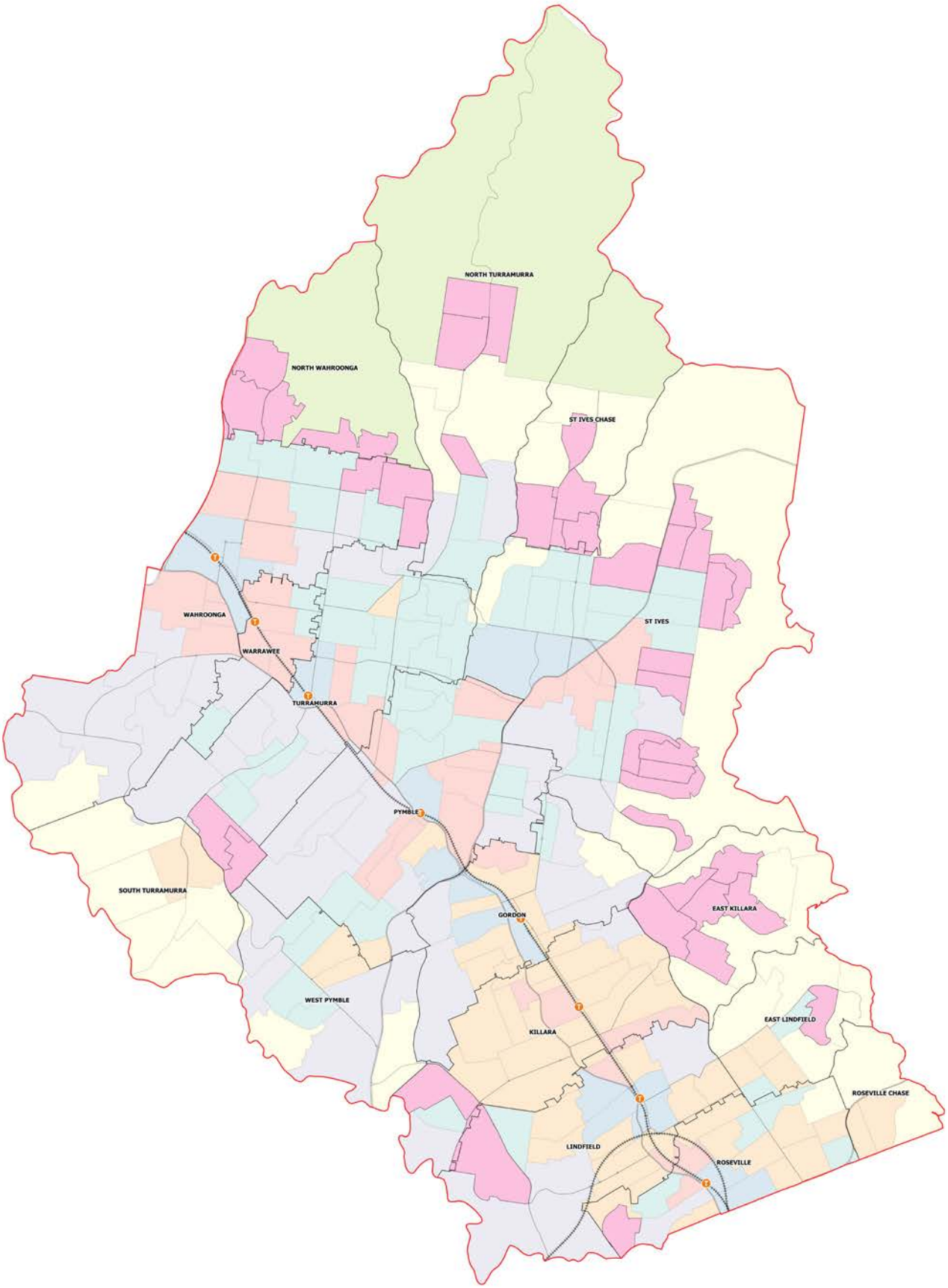

Figure 04: Pink cluster

1.5 Purple Cluster

Preliminary Observations

Mostly situated in the western portion of the LGA and Pacific Highway, these areas typically exhibit high tree and vegetation cover and less built form. Other areas are scattered throughout the LGA and may exhibit similar characteristics or could be outliers in the data analysis process.

The characteristics of these areas could mostly be attributed to diverse topography, given their location to key riparian corridors extending from the Lane Cove River. This topography also tends to support much higher vegetation, tree canopy coverage and consistently larger trees compared to other areas.

Historically this unique topography has led to decreased development, with some areas only recently subdivided. A large portion of these areas are also dedicated to private open space such as golf courses or large institutions such as the Sydney Adventist Hospital, CSIRO and Lindfield Learning Village.

Characteristics

- Diverse lot area
- Much higher vegetation and canopy coverage
- Diverse topography
- Higher accessibility (compared to other low density residential areas)

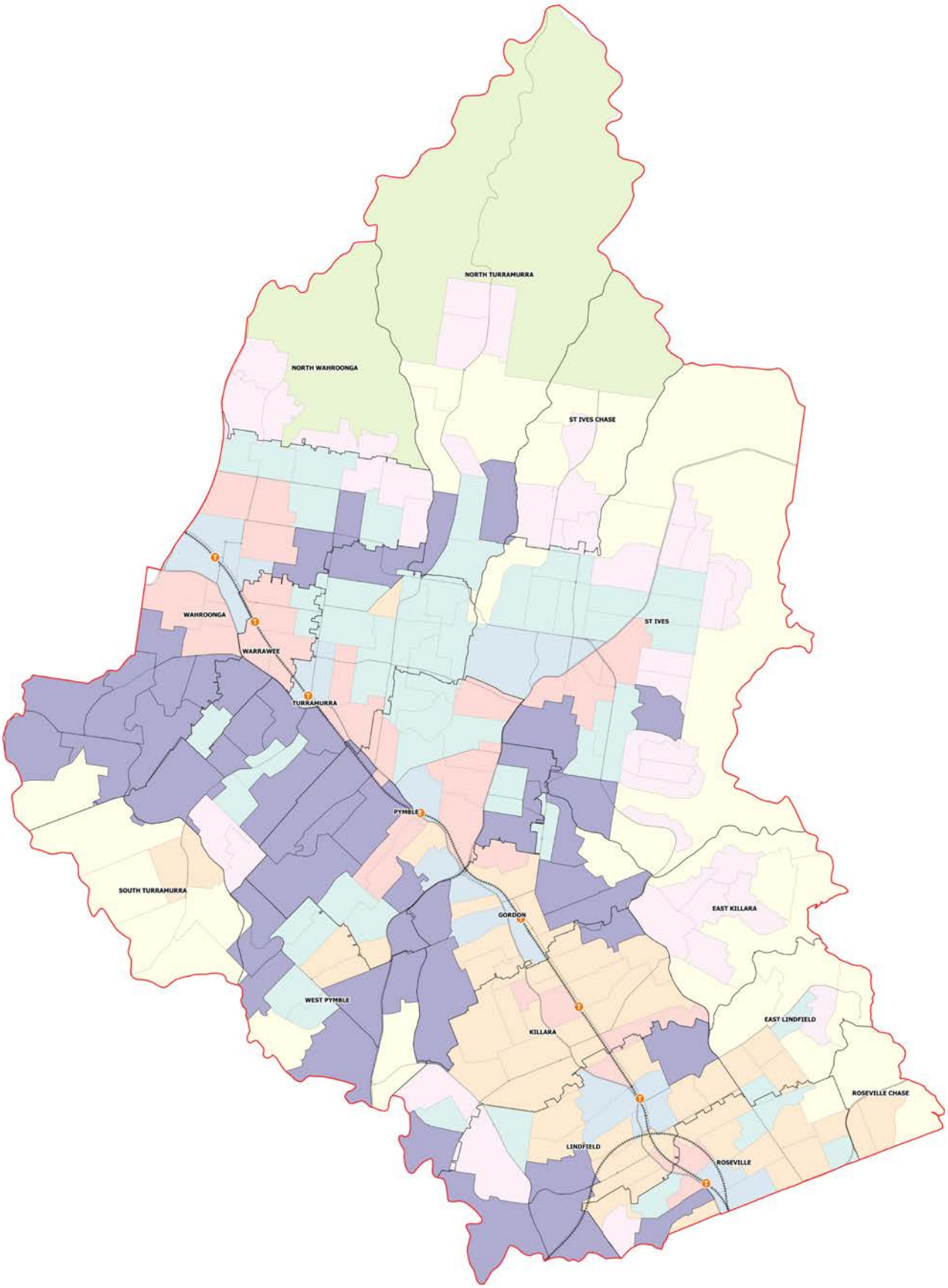

Figure 05: Purple cluster

1.6 Red and Blue Clusters

Preliminary Observations

Noticeably, these areas include centres and their adjacent areas. The red and blue clusters have been described together as they share more similarities than differences. They are primarily located around train stations and town centres along the major rail/ Pacific Highway and Mona Vale Road corridors. These places exhibit high accessibility characteristics due to their proximity to train stations and non-residential uses located within the centres. This supports a level of amenity not available in other areas of the LGA.

The main difference that the blue clusters have a slightly higher point of interest density and more diverse land use mix due to proximity to public transport infrastructure and Local Centres.

The planning controls in these areas contribute to the character by allowing a more diverse land use and large building typologies such as shopping centres, commercial and multi-residential developments. These all have increased footprint size, lot coverage and support increases population and density. These areas also have a lack of consistent heritage fabric which would have impacted the capacity to deliver such a diversity of built form and typologies.

Characteristics

- Diverse population
- Varied presence of heritage items
- High number of strata-titled properties
- Less diverse topography
- Bigger building footprints
- Higher lot coverage
- High point of interest density and diversity

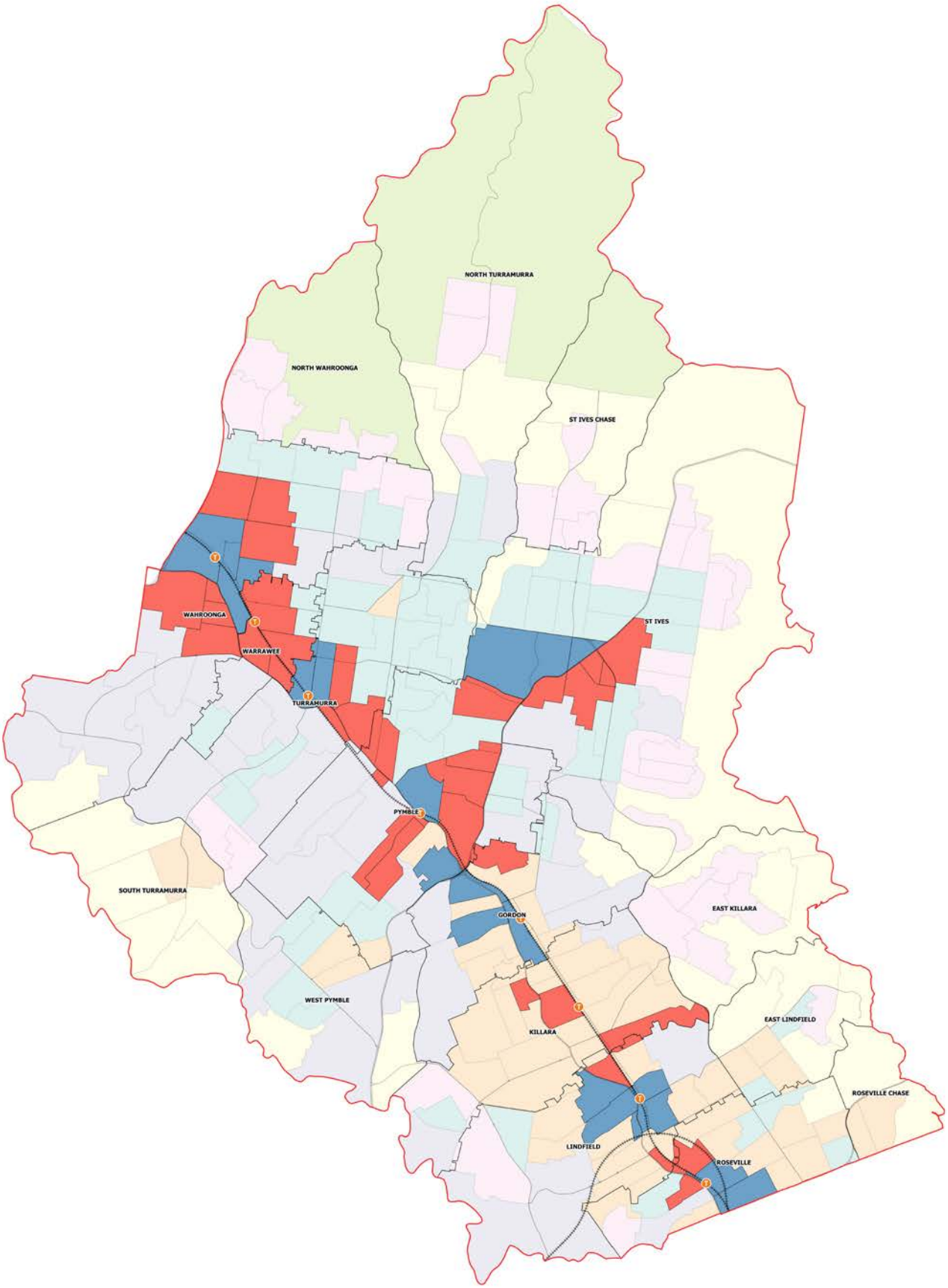

Figure 06: Red/blue clusters

1.7 Orange Cluster

Preliminary Observations

Mostly located in the southern area of the LGA, these areas are largely within or adjacent to Heritage Conservation Areas (HCAs) and exhibit high heritage counts and more diverse lot dimensions.

Most likely due to the historic development of these areas, as demonstrated by the high heritage counts and adjacency to HCAs, the lots are typically more diverse in dimensions. This would be the result of a lack of hollistic planning during early settlement of this part of the LGA. Streets are however more rigid and defined with consistent street orientation. This could be attributed to enabling an ease of access prior to the delivery of paved roads in the area.

These areas exhibit consistent zoning controls, most likely established to protect the existing heritage character and limit development that could detract from this.

Characteristics

- Higher lot depths
- Smaller lot widths
- Low lot coverage
- Consistent street orientation
- Consistent zoning
- High heritage counts

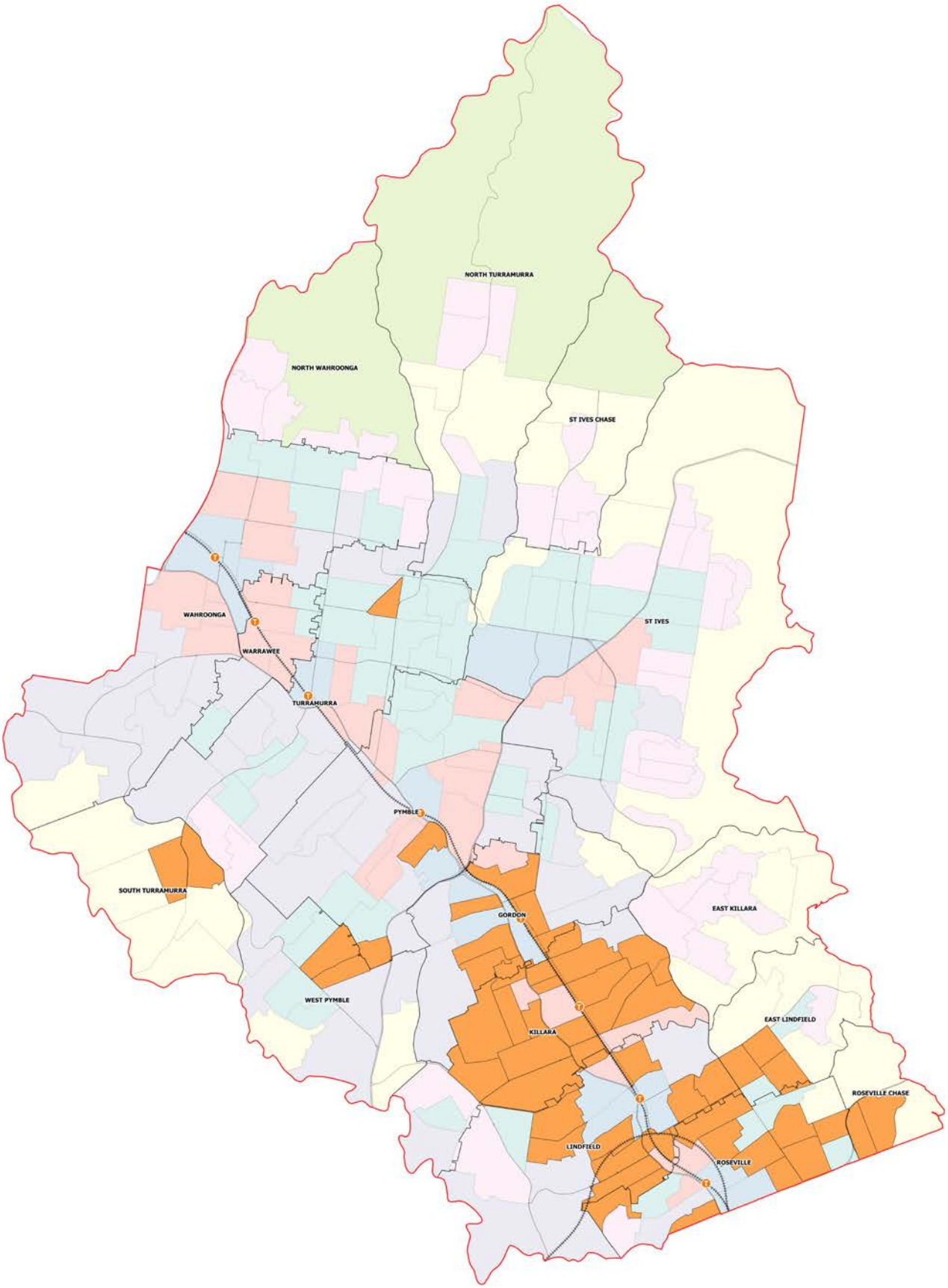

Figure 07: Orange cluster

1.8 Yellow/Green Clusters

Preliminary Observations

Mostly on the absolute periphery of the LGA, these areas are representative of the bushland located within National Parks and riparian corridors. There are some residential areas within this cluster that show high vegetation cover and more diverse topography. Some of these could be a misrepresentation of data and would be better attributed to the Pink cluster.

The significant bushland and high vegetation in these areas is a major driver for their overall character. The majority of these areas have low or in some cases no built form and population. The areas that do have built form are within the “finger tips” identified in the Pink cluster. These typically show high vegetation cover and more diverse built form as a result of the varied and steep topography.

These areas have been typically underdeveloped due to existing protections of riparian corridors and critically endangered species. Bushfire protection areas also impact the viability of dwellings within these clusters.

Characteristics

- Very diverse topography
- Less consistent built form
- Low to no population
- Less strata counts
- Less heritage counts
- High vegetation and canopy coverage
- Low accessibility

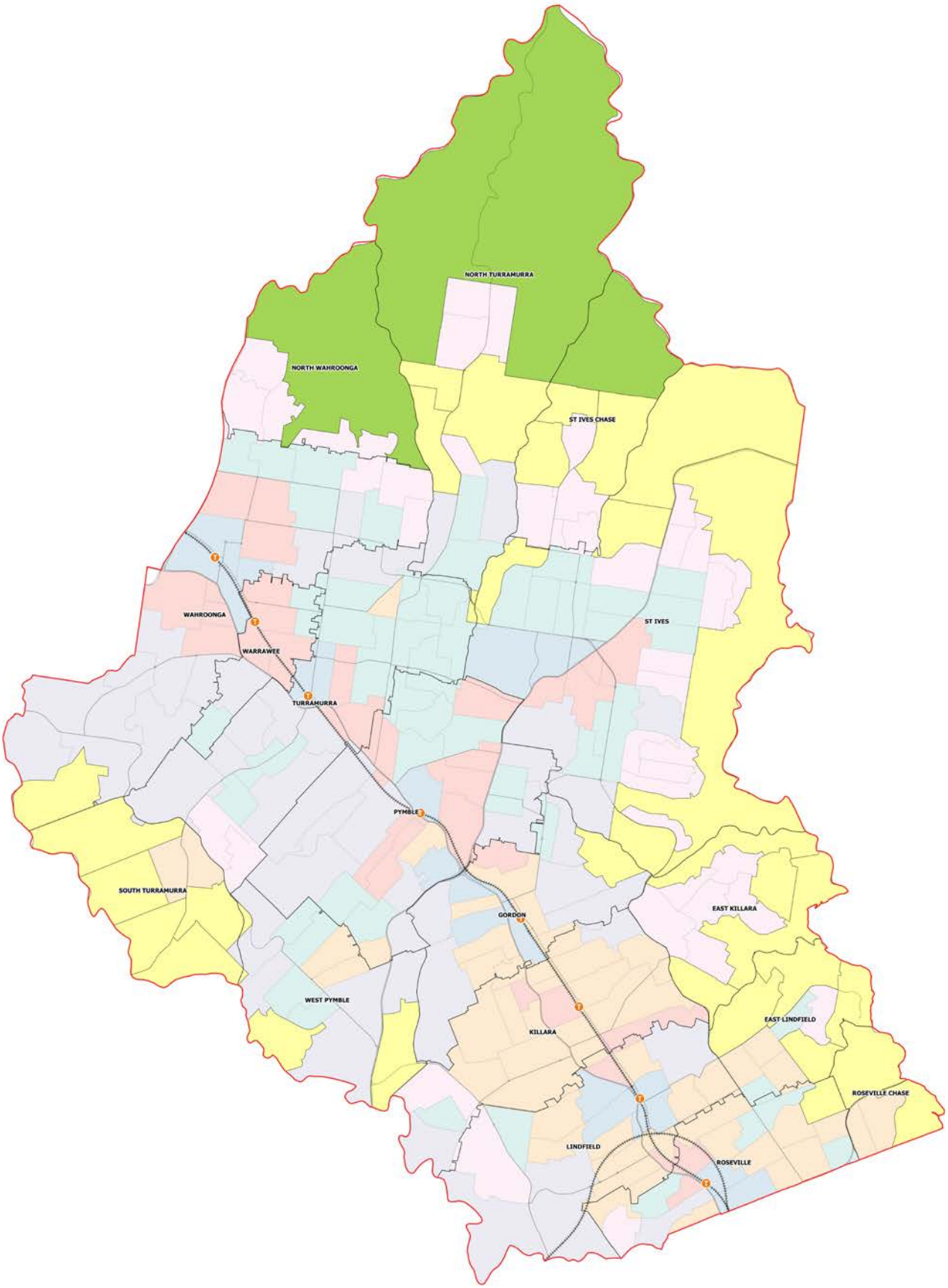

Figure 08: Yellow/green clusters

SJB Urban

SJB is passionate about the possibilities of architecture, interiors, urban design and planning. Let's collaborate.

Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au