

Marrickville Council
**Parramatta Road Corridor and
Camperdown Precinct**
Parking Management Study

Draft | 1 April 2016

Draft

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 246575

Arup
Arup Pty Ltd ABN 18 000 966 165



Arup
Level 10 201 Kent Street
PO Box 76 Millers Point
Sydney 2000
Australia
www.arup.com

ARUP

Document Verification

ARUP

Job title		Parramatta Road Corridor and Camperdown Precinct		Job number		246575	
Document title		Parking Management Study		File reference			
Document ref							
Revision	Date	Filename	20160104 Camperdown Report_v2.docx				
Draft 1	6 Jan 2016	Description	First draft				
			Prepared by	Checked by	Approved by		
		Name					
		Signature					
Draft 2	1 Apr 2016	Filename	Camperdown Parking Study Report - Draft 2.docx				
		Description					
			Prepared by	Checked by	Approved by		
		Name	Ryan W Wong	Joshua Milston	Andrew Hulse		
		Signature					
		Filename					
		Description					
			Prepared by	Checked by	Approved by		
		Name					
		Signature					
		Filename					
		Description					
			Prepared by	Checked by	Approved by		
		Name					
		Signature					

Issue Document Verification with Document



Executive Summary

The Parramatta Road Corridor and Camperdown Parking Study was commissioned by Marrickville Council in order to review the parking policy and management strategy within the precinct. The study identifies the extent and utilisation of parking in the precinct, establishes community opinion and concerns and proposes a strategy for parking in the area based on the collected data. The objective of the study is to:

- Review the existing documentation, previous parking studies, strategies and survey data for the area
- Identify the extent and nature of the existing on-street and off-street public car parking demand, utilisation and inventory
- Undertake community consultations to identify existing issues and aspirations in relation to parking in the Parramatta Road Corridor and Camperdown precinct
- Develop a parking management strategy that will help optimise the amount of parking available for road users.

Community opinions were collected by a questionnaire survey to establish how residents and workers view the parking arrangements for their given area. A process was established whereby comments could be mapped to specific locations which allowed issues to be grouped throughout the study area. Typically residents of the precinct found it more difficult to locate a parking space nearby to their residence at the eastern end of the precinct (near Camperdown Park) and towards the western end near the TAFE.

Parking surveys were undertaken to establish the number of available spaces and the demand for parking within the study area. The surveys recorded the number of potential parking spaces and their utilisation, with 4,251 on-street parking spaces surveyed across the study area. The surveys were conducted on an hourly basis during the week and during the weekend, and would provide an indication of the busiest streets during these periods to provide guidance towards implementing a fair and reasonable strategy.

The data collection showed opinions throughout the study area aligned areas of high community concern and areas with a high demand for parking. Notable areas where parking occupancy was high included to at the eastern end of the precinct (north of Camperdown Park) and towards the western end of the precinct near Petersham TAFE and Parramatta Road retail strip.

Following community feedback and review of parking survey data, a suite of draft recommendations have been developed. The aim of the parking recommendations is to provide – where possible – an improved management system for parking for the area. The draft recommendations proposed takes into consideration:

- The current transport environment and conditions in the Parramatta Road / Camperdown precinct;
- Existing parking controls in neighbouring areas – both in the Marrickville Council and City of Sydney Local Government Areas
- Feedback received during the community and stakeholder engagement process; and
- Results of the parking surveys conducted in the precinct

A summary of draft recommendations contained within the report is outlined in the table below. These will be the subject of review during the public exhibition period of the document.

Table 1: Draft Parking Strategy Recommendations

Recommendation	Recommendation Description
Recommendation 1: Australia Street	Modify existing time restrictions on the eastern side of Australia Street (between Federation Road and Salisbury Street) to 2P 8:00am-10pm (Monday to Sunday, M1 permit holders excepted)
Recommendation 2: Hopetoun Street, Roberts Street and Northwood Street	Modify existing time restrictions on the western side of Hopetoun Street, Roberts Street and Northwood Street to 2P 8:00am-10pm (Monday to Sunday, M1 permit holders excepted)
Recommendation 3: Federation Road	Convert the existing unrestricted parking spaces on the southern side of Federation Road to 10 hour time restricted parking
Recommendation 4: Australia Street	Monitor the occupancy and turnover of the western side of Australia Street (between Lennox Street and Federation Road) following the implementing 10P parking along the south side of Federation Road
Recommendation 5: Standardisation of parking restrictions within the M5 area	Standardisation of time limits within the M5 parking area, to 2P 8am-10pm (Mon-Fri) M5 permit holders excepted
Recommendation 6: Margaret Street north side	Convert the existing 33 unrestricted spaces on the northern side of Margaret Street (between Charles Street and Margaret Lane) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 7: Margaret Street south side	Convert the existing 15 time restricted parking spaces on the southern side of Margaret Street (between Charles Street and Crystal Street) to unrestricted parking

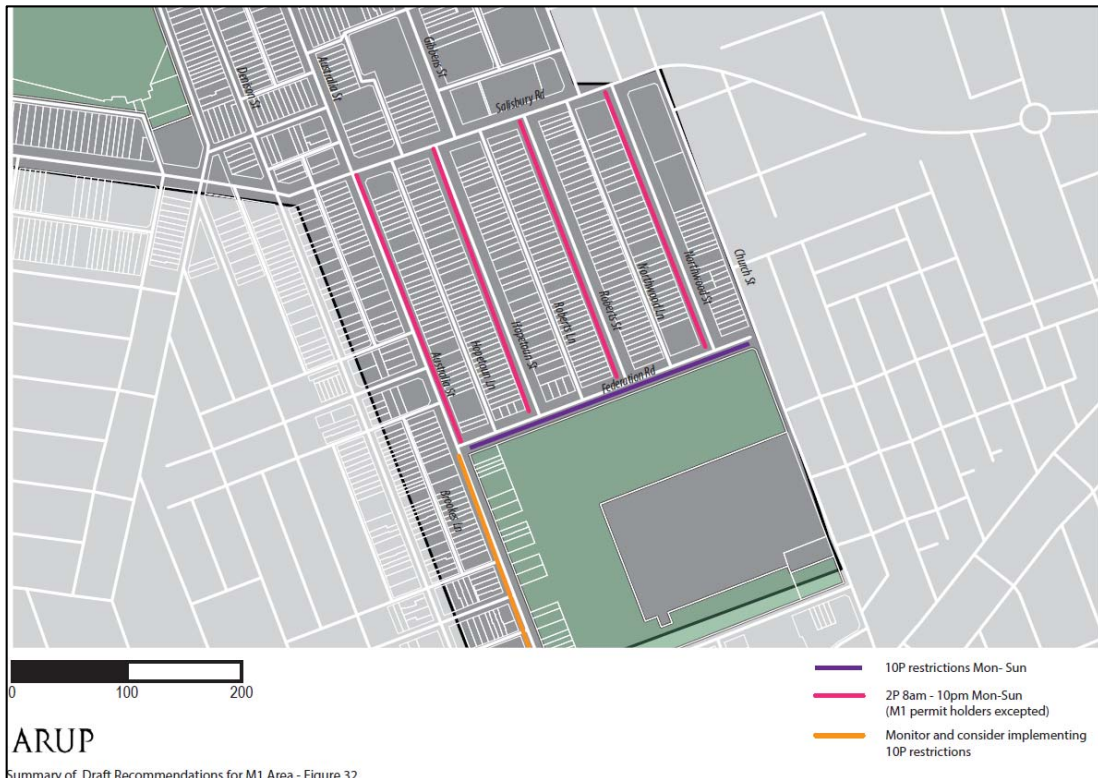
Recommendation	Recommendation Description
Recommendation 8: Corunna Road, east of Charles Street	Convert the existing 35 unrestricted spaces on the northern side of Corunna Road (between Charles Street and Cannon Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 9: Corunna Road, west of Charles Street	Convert the existing 27 time restricted parking spaces on the southern side of Corunna Road (between Charles Street and Crystal Street) to unrestricted parking
Recommendation 10: Westbourne Street	Convert the 42 spaces on the northern side of Westbourne Street (between Charles Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 11: Fort Street	Convert the 16 unrestricted spaces on the northern side of Fort Street (between Railway Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 12: Railway Street and Croydon Street	Convert the 24 unrestricted spaces on the eastern side of Railway Street (between Elswick Street and Croydon Street) and the 20 spaces on the northern side of Croydon Street (between Railway Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 13: Number of parking permits within M5 area	A maximum of one residential permit be issued per household for those entitled to parking permits within the expanded M5 area.
Recommendation 14: Bridge Road	Six existing parking spaces on Bridge Road be converted to short stay (one hour) parking to provide greater parking opportunities for customers of nearby businesses. The recommended spaces to be converted are as follows: <ul style="list-style-type: none"> • Two spaces along the eastern side of Bridge Road (between Salisbury Road and the driveway entrance to the site at 43 – 53 Bridge Road); and • Four spaces along the western side of Bridge Road (between Macaulay Road and Albany Lane)
Recommendation 15: Availability of parking permits for residents of multi-unit developments	Maintain the current Marrickville Council policy of imposing conditions of development consent limiting new multi unit development resident’s access to RPS permits
Recommendation 16: Enforcement	Increase patrols by Council parking officers/ rangers, particularly targeting main streets/ car parks where overstaying is highest.
Recommendation 17: Reducing parking demand	Continue to lobby Transport for NSW to ensure that the best possible public transport facilities are provided for users of the precinct and continue to look for opportunities to increase the provision of car share throughout the precinct.

The streets subject to the proposed changes to parking restrictions, and the number of car parking spaces impacted, are summarised in Table 2.

Table 2: Overview of parking restriction changes

Location	Between	Proposed Changes				
		1P (Pemit Excepted, Mon to Fri)	2P (Permit Excepted - Mon to Fri)	2P (Permit Excepted - Mon to Sun)	Unrestricted	10P
Australia Street (east)	Federation Road and Salisbury Street		-32	+32		
Hopetoun Street (west)	Federation Road and Salisbury Street		-40	+40		
Roberts Street (west)	Federation Road and Salisbury Street		-34	+34		
Northwood Street (west)	Federation Road and Salisbury Street		-36	+36		
Federation Road (south)	Australia Street and Church Street				-81	+81
Margaret Street (north)	Charles Street and Margaret Lane		+33		-33	
Margaret Street (south)	Charles Street and Crystal Street	-15			+15	
Corunna Road (north)	Charles Street and Cannon Street		+35		-35	
Corunna Road (south)	Charles Street and Crystal Street		-27		+27	
Westbourne Street (north)	Charles Street and Crystal Street		+42		-42	
Fort Street (north)	Railway Street and Crystal Street		+16		-16	
Railway Street (east)	Elswick Street and Croydon Street		+24		-24	
Croydon Street (north)	Railway Street and Crystal Street		+20		-20	
Total		-15	+1	+142	-209	+81

These changes are illustrated in the figures below.



Contents

	Page
1 Introduction	1
1.1 Objectives	1
1.2 Report Structure	1
2 Study Background	2
2.1 Appreciation of Study	2
3 Study Area and Planning Context	3
3.1 Location	3
3.2 Planning context	5
3.3 Parking permit charges	6
3.4 Parramatta Road Urban Transformation Strategy	7
4 Existing Conditions	8
4.1 Existing land uses	8
4.2 Population	10
4.3 Vehicle Ownership	12
4.4 Travel Patterns	13
4.5 Road classification	14
4.6 Public transport	15
5 Community and Stakeholder Consultation	17
5.1 Results summary	17
5.2 Parking for residents	19
5.3 Travel to work	24
5.4 Parking policies	26
6 Parking Survey	28
6.1 Overview	28
6.2 Theoretical parking capacity	29
6.3 Parking supply	29
6.4 Parking occupancy	30
6.5 Parking occupancy maps	34
7 Parking Management Recommendations	46
7.1 Overview	46
7.2 Key Principles	46
7.3 Resident Parking Scheme	47
7.4 M1 Parking Area Draft Recommendations	48

7.5	M5 Parking Area Draft Recommendations	51
7.6	Short Term Parking	57
7.7	Future Changes to Land Uses in the Area	58
7.8	Parking Enforcement	59
7.9	Reducing Parking Demand	59
8	Summary	62

Tables

Table 1	Car Parking Provision Rates in Marrickville DCP
Table 2	Marrickville Council Parking Fees 2015/16
Table 3:	Sydney Buses - Bus Routes on Parramatta Road, Camperdown
Table 4:	Summary of On-Street Parking
Table 5:	Permit holder areas
Table 6:	Draft Parking Strategy Recommendations

Figures

Figure 1:	Integrated Approach to Reducing Car Dependency
Figure 2:	Parramatta Road Corridor and Camperdown Precinct parking strategy study area
Figure 3:	Camperdown structure plan
Figure 4:	2011 Land Use Map for the Parramatta Road/Camperdown Study Area
Figure 5:	Total number of residents by household size for Camperdown and the Sydney Urban Centre/Locality (UCL)
Figure 6	Age Profile of Residents in Camperdown and Sydney UCL
Figure 7:	Car ownership per dwelling rates
Figure 8:	Comparison of vehicle ownership per dwelling
Figure 9:	Journey to work mode share
Figure 10:	Classified roads around the study area
Figure 11	Sydney Light Rail network
Figure 12:	Survey response locations
Figure 13:	How far residents park from their homes
Figure 14	How far away do you park from your residence
Figure 15:	Proportion of residents with off-street parking at their residence
Figure 16:	Main parking issues
Figure 17:	Preference for a parking scheme
Figure 18:	Preferred parking policy
Figure 19:	Permit holder areas - Average hourly occupancy
Figure 20:	Short term parking - Average hourly occupancy

- Figure 21: Unrestricted parking - Average hourly occupancy
Figure 22: Average duration of stay – study area wide
Figure 23: Average occupancy – Tuesday
Figure 24: Average occupancy – Thursday
Figure 25: Average occupancy – Saturday
Figure 26: Peak occupancy – Tuesday
Figure 27: Peak occupancy – Thursday
Figure 28: Peak occupancy – Saturday
Figure 29: 85% or higher occupancy for 3 or more hours – Tuesday
Figure 30: 85% or higher occupancy for 3 or more hours – Thursday
Figure 31: 85% or higher occupancy for 3 or more hours – Saturday
Figure 32 Summary of recommendations – M1 Parking Area
Figure 33 Summary of recommendations – M5 Parking Area
Figure 34: Existing GoGet Parking Spot Locations

DRAFT

1 Introduction

Arup has been engaged by Marrickville Council to prepare a parking study for the Parramatta Road Corridor and Camperdown precinct. The study investigates and reviews on-street and off-street parking policy and management strategies in the precinct.

1.1 Objectives

The objective of the study is to:

- Review the existing documentation, previous parking studies, strategies and survey data for the area
- Identify the extent and nature of the existing on-street and off-street public car parking demand, utilisation and inventory
- Undertake community consultations to identify existing issues and aspirations in relation to parking in the Parramatta Road Corridor and Camperdown precinct
- Develop a parking management strategy that will help optimise the amount of parking available for road users.

1.2 Report Structure

The structure of the study is as follows:

- Chapter 1 – Introduction
- Chapter 2 – Study Background
- Chapter 3 – Study Area
- Chapter 4 – Existing Conditions
- Chapter 5 - Community and Stakeholder Consultation
- Chapter 6 - Parking Survey
- Chapter 7 - Parking Management Recommendations
- Chapter 8 - Summary

2 Study Background

2.1 Appreciation of Study

The Parramatta Road Corridor and Camperdown precinct is a primarily residential area characterised by a variety of different surrounding competing land uses, including, retail, entertainment and recreational. Each of these land uses has specific parking requirements. Peak parking demand often exceeds capacity, particularly on weekdays where high numbers of employees, students and commuters are attracted to the study area. Key transport and parking issues for the Parramatta Road Corridor and Camperdown precinct include:

- Future urban densification associated with Parramatta Road corridor strategy
- Competing parking demands from residents and visitors in key retail corridors, including Newtown shops
- Overnight parking along Federation Road
- Proximity to Newtown railway station leading to demands for commuter parking

Measures to reduce the dependence on and use of the private car need to be co-ordinated with a range of transport system investments and stakeholders, and integrated with broader travel demand and behaviour change programs. It is identified that policies and strategies need to address initiatives that require modification to the built environment ('hard' infrastructure) as well as those that are related to the modification of use behaviour ('soft' infrastructure). It is recognised that these 'hard' and 'soft' infrastructure initiatives are mutually exclusive and support one another to result in integrated and efficient transport alternatives – see Figure 1.

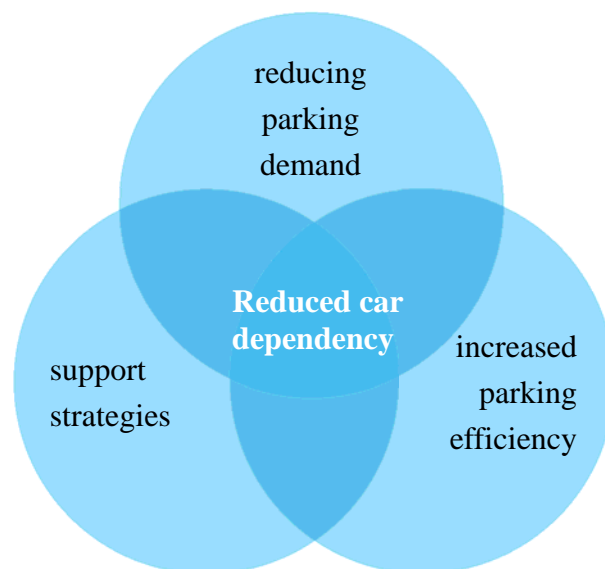


Figure 1: Integrated Approach to Reducing Car Dependency

3 Study Area and Planning Context

3.1 Location

The study area is shown in Figure 2. This area is bound by Parramatta Road to the north, Mallett Street and Church Street to the east, Brighton Street and Albany Road to the south, and Petersham Park to the west.



0 250 500
Meters

Study area

ARUP

Parramatta Road Corridor and Camperdown Parking Study - Figure 2

3.2 Planning context

Marrickville Local Environmental Plan (LEP) 2011 was introduced in December 2011 in accordance with the NSW Standard Template.

The Marrickville Council Development Control Plan 2011 (DCP 2011), identifies three ranks of parking controls for the LGA. The tiers are classified based on the level of accessibility to each zone. The objective of the DCP parking rates are “To balance the need to meet car parking demand on-site to avoid excessive spill over on to streets, with the need to constrain parking to maintain Marrickville LGA’s compact urban form and promote sustainable transport.”

The majority of the area of the Parramatta Road/Camperdown Parking Strategy 2013 is situated within the DCP’s ‘Area 2’ where car parking is limited. The central part of the study area is within ‘Area 3’ where parking is generally less constrained.

Table 1 Car Parking Provision Rates in Marrickville DCP

Land use	Car spaces: Parking Area 1	Car spaces: Parking Area 2	Car spaces: Parking Area 3
Residential			
Dwelling houses (incl. attached, semi-detached and secondary dwellings)	1 per dwelling house or 1 per principal dwelling and secondary dwelling combined	1 per dwelling house or 1 per principal dwelling and secondary dwelling combined	1 per dwelling house or 1 per principal dwelling and secondary dwelling combined
All residential flat buildings and shoptop housing with 7 or more units – non-adaptable units	0.2 per studio + 0.4 per 1br unit + 0.8 per 2br unit + 1.1 per 3+br unit for residents	0.4 per studio + 0.5 per 1br unit + 1.0 per 2br unit + 1.2 per 3+br unit for residents + 0.1 per unit for visitors	0.6 per studio + 0.8 per 1br unit + 1.2 per 2br unit + 1.2 per 3+br unit for residents + 0.1 per unit for visitors
All residential flat buildings and shoptop housing with 7 or more units - adaptable units	1 mobility space per studio, 1br, 2br or 3+br unit for residents	1 mobility space per studio, 1br, 2br or 3+br unit for residents + 0.25 visitor mobility spaces per unit	1 mobility space per studio, 1br, 2br or 3+br unit for residents + 0.25 visitor mobility spaces per unit
Business and Retail			
Up to 500m ²	1 per 100m ² GFA for customers & staff	1 per 80m ² GFA for customers & staff	1 per 50m ² GFA for customers & staff
500-750m ²	5 + 1 per 65m ² GFA over 500m ² GFA for customers & staff	7 + 1 per 45m ² GFA over 500m ² GFA for customers & staff	10 + 1 per 30m ² GFA over 500m ² GFA for customers & staff
750-1,000m ²	9 + 1 per 45m ² GFA over 750m ² GFA for customers & staff	12 + 1 per 35m ² GFA over 750m ² GFA for customers & staff	19 + 1 per 25m ² GFA over 750m ² GFA for customers & staff
Over 1,000m ²	15 + 1 per 35m ² GFA over 1000m ² GFA for customers & staff	20 + 1 per 30m ² GFA over 1,000m ² GFA for customers & staff	29 + 1 per 20m ² GFA over 1000m ² GFA for customers & staff

3.3 Parking permit charges

Existing fees and charges for parking permits in Marrickville Council for all areas (excluding the Newtown-Enmore area) are outlined below in Table 2.

Table 2 Marrickville Council Parking Fees 2015/16

Permit Type	Permit Cost (including GST)			Major Condition
	1st Permit	2nd Permit	Pensioner permit	
Resident Parking Permit	Free	\$99.90	First permit - Free Second Permit - \$50.10	For vehicles less than 3 tonnes tare For company vehicles written authorisation is required from the company
Business Parking Permit	\$226.70	Not Permissible	-	Max 1 permit per business For businesses which have no on-street parking and no unrestricted parking close to the business
Replacement Parking Permit	\$26.90	\$53.50 (where permitted)	\$13.60	Residents who do not have any off-street/unrestricted parking at the vicinity
Residents' Visitor Parking Permit	\$23.30 for 10 Permits		\$11.80 for 10 Permits	Only for residents' genuine visitors e.g. families, friends, carers or trade persons. Limit of 30 permits per year for every household
Mobility Parking Space	Free of Charge			RMS mobility permit required Doctors certificate may be required

Rates are correct as of December 2015. Note that rates are reviewed on the 1 July every year.

3.4 Parramatta Road Urban Transformation Strategy

In September 2015 UrbanGrowth NSW released the draft Parramatta Road Urban Transformation Strategy. This strategy outlines the process to transform the Parramatta Road corridor to bring new life to local communities living and working along the corridor. The draft strategy proposes that renewal will be focused in precincts that are suitable for long term growth and change.

Relevant to this study, the strategy proposes densification within the Camperdown area – with the vision for the precinct as follows:

An attractive highly urbanised precinct with high-quality amenity for housing and workplaces, well connected to the surrounding city and parklands, and focused on a busy and active local centre

Within the Marrickville LGA, the corridor strategy proposes residential intensification to the west of Australia Street as shown in Figure 3 below.

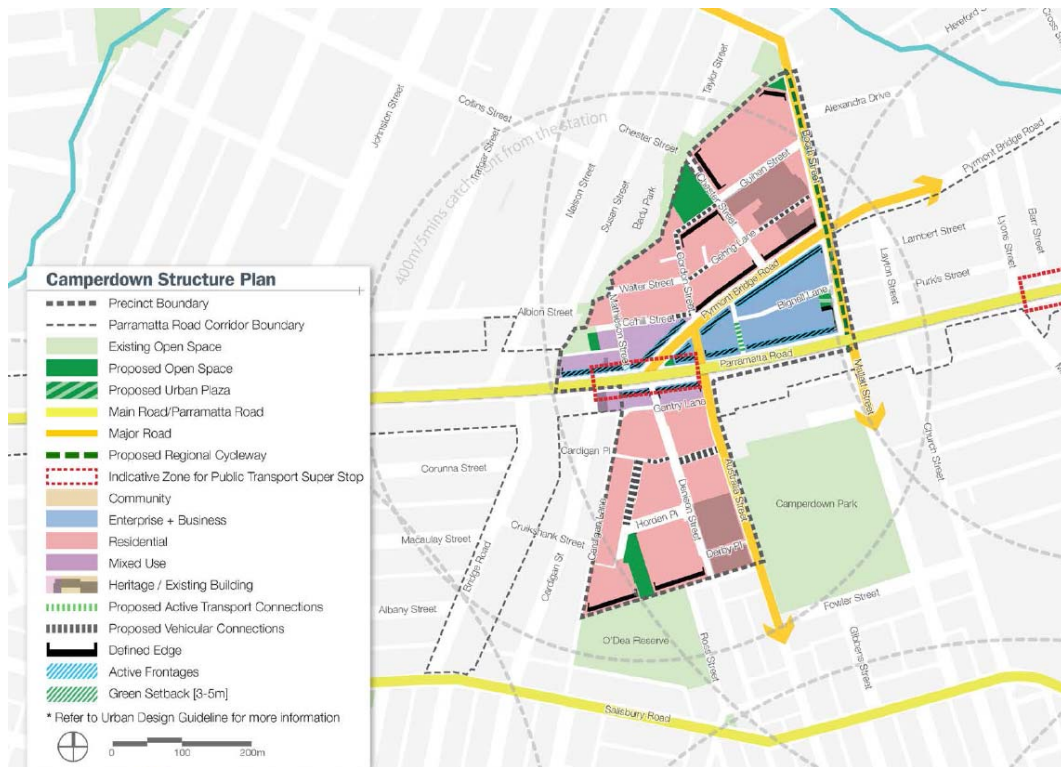


Figure 3: Camperdown structure plan

Source: Draft Parramatta Road Urban Transformation Strategy (UrbanGrowth NSW, September 2015)

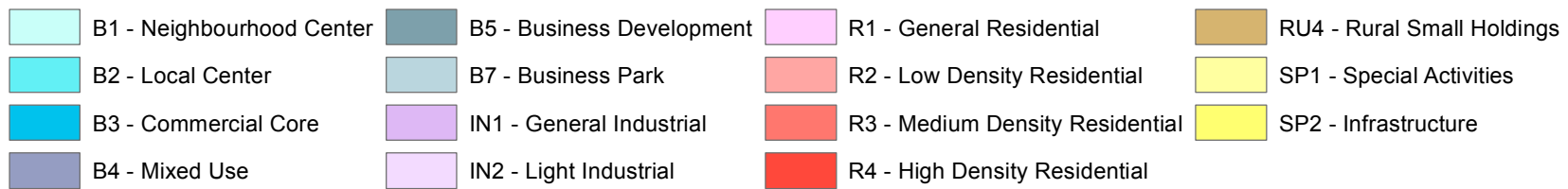
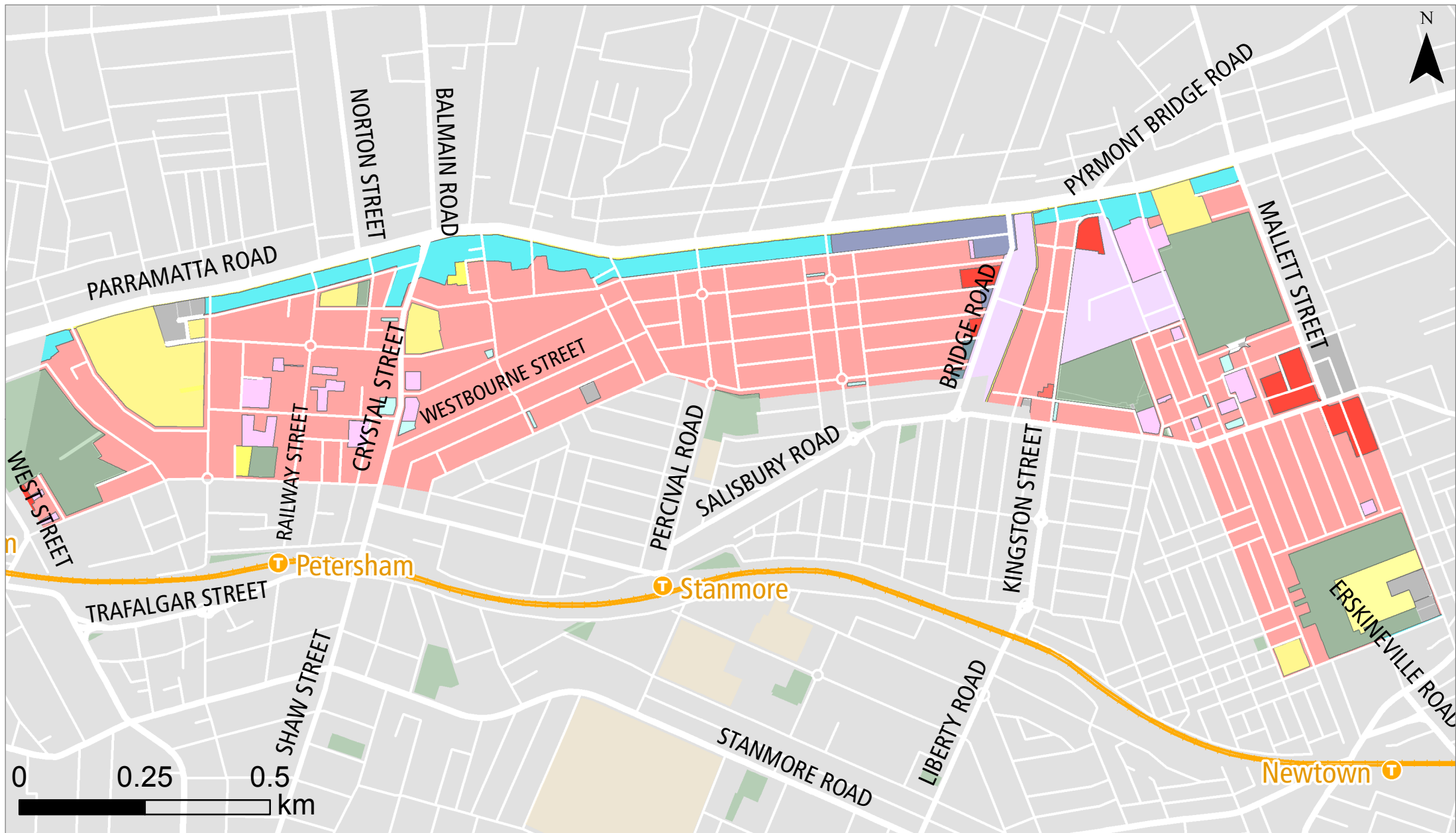
4 Existing Conditions

4.1 Existing land uses

The Parramatta Road Corridor and Camperdown study area is located approximately on the northern border of the Marrickville Council LGA. The existing land uses in the study area are primarily residential with five educational institutions and 6 public parks as illustrated in Figure 4.

The area is primarily served by buses along Parramatta Road. The Stanmore and Lewisham railway stations are located within 400 metres from the southern border of the LGA. The precinct contains the Leichhardt local centre along Parramatta Road and primarily low density residential land uses. The University of Sydney campus is situated to the east of the Mallett Street border.

The study area is characterised by a primary mix of residential land uses to the southern aspect of Parramatta Road. The town centre along Parramatta road service the residents in the area. Figure 4 shows an overview of the land uses within the precinct.



ARUP

Parramatta Road Corridor and Camperdown Parking Study - Figure 4

4.2 Population

2011 Census Data for the suburb of Camperdown encompassing the majority of the study area, surveyed 7,866 residents across the 1.5 square kilometres.

There are approximately 3,200 occupied households across Camperdown. 2011 Census Data for the suburb of Camperdown indicates an average household occupancy of 1.9 people per dwelling.

The household size for the Camperdown suburb is summarised in Figure 5. There is a trend in the preference of smaller households with approximately 39% and 42% occupied by one- and two-bedroom dwellings respectively. This correlates with the high density nature of the areas with close proximity to the Sydney Central Business District (CBD).

The Sydney Urban Centre/Locality (UCL) was used as a basis for statistical comparison to Camperdown. The study area is within close proximity to the Sydney CBD and therefore

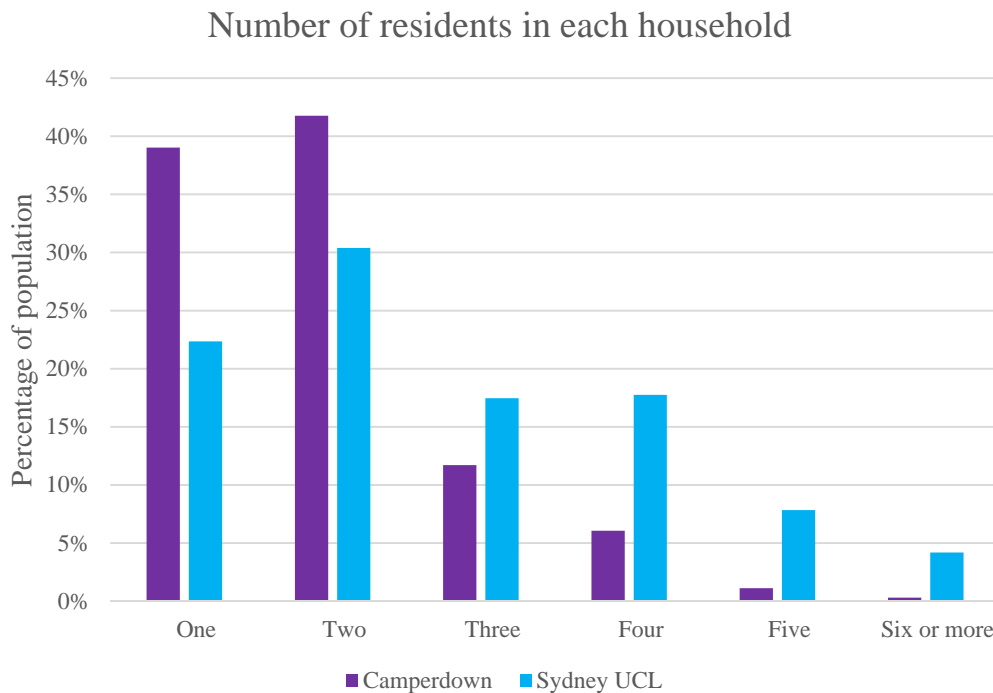


Figure 5: Total number of residents by household size for Camperdown and the Sydney Urban Centre/Locality (UCL)

(Source: 2011 Census Data)

In the suburb of Camperdown, the 2011 Census indicates 67% of residents over the age of fifteen are employed, accounting for a total of 4,853 persons. The rate is relatively high compared to the surveyed 59% across Sydney. The high rate may correlate to the workers within the Sydney CBD residing within suburbs in close proximity including the Camperdown study area.

The following figure outlines the age profile of Camperdown compared to that of the Sydney Urban Centre/Locality (UCL). There is a significantly higher percentage of residents between the ages of 20-34 compared to that across Sydney. As a result, there is a significantly lower number of persons over the age of 55 and under the age of 15.

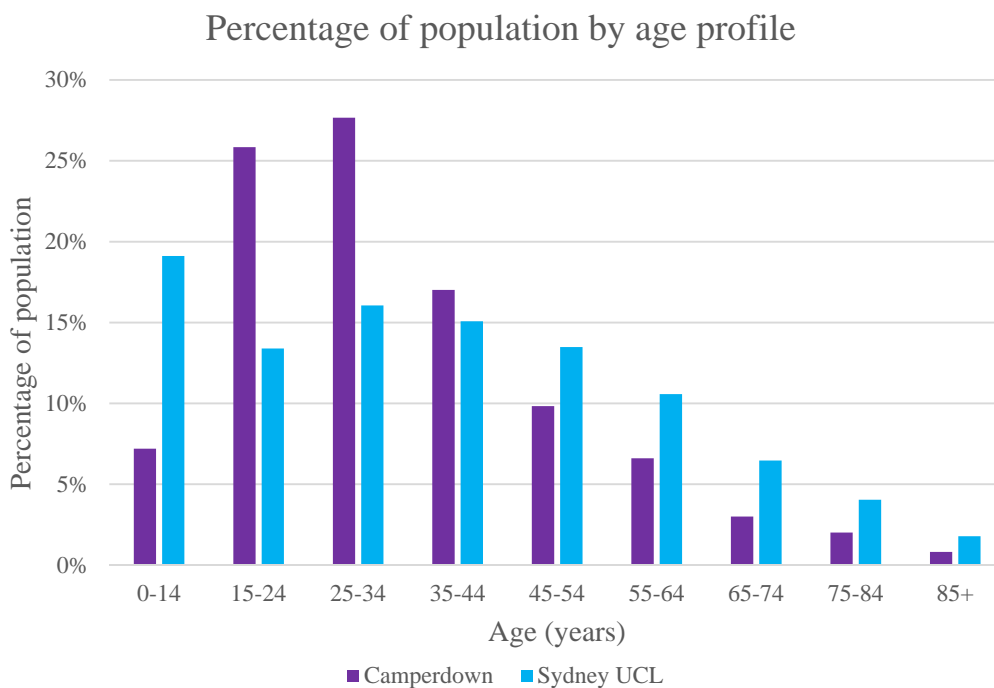


Figure 6 Age Profile of Residents in Camperdown and Sydney UCL

(Source: 2011 Census Data)

4.3 Vehicle Ownership

Car ownership in the Camperdown area has remained relatively static over the past ten years - decreasing from 0.94 vehicles per dwelling in 2001 to 0.93 in 2011 (1% decrease) is shown in Figure 7.

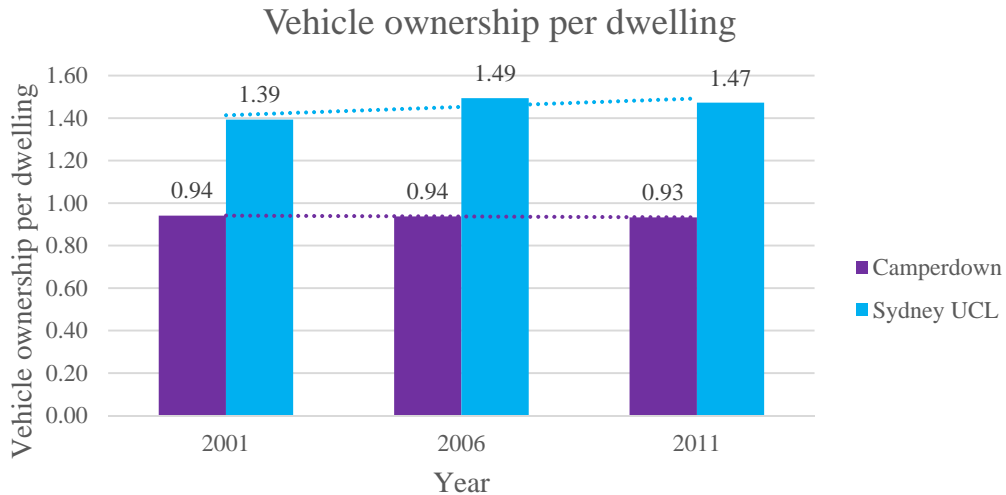


Figure 7: Car ownership per dwelling rates

2011 Census data shows that 26% of households have no vehicles in comparison to a Sydney average of 13%. In Camperdown, less than 20% of households own more than one vehicle. The comparison of vehicle ownership between Stanmore and the Sydney average is shown in Figure 8.

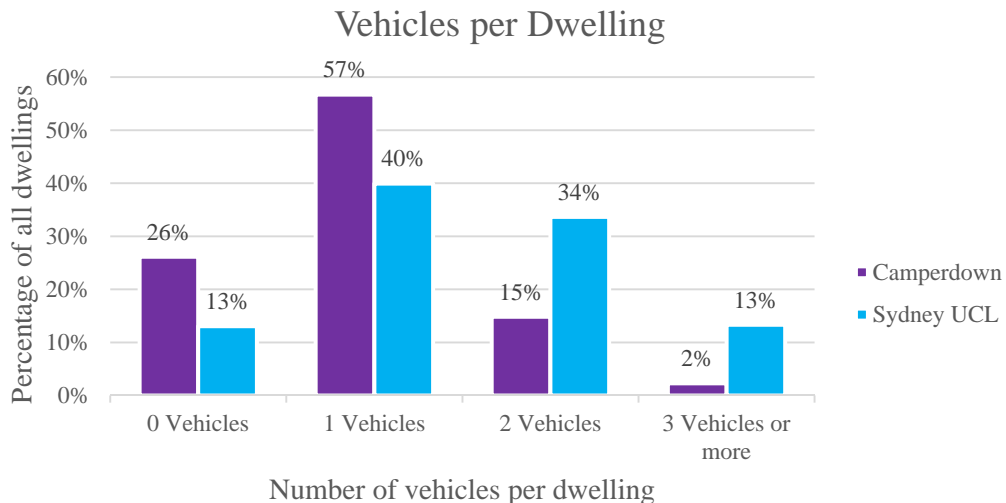


Figure 8: Comparison of vehicle ownership per dwelling

(Source: 2011 Census Data)

4.4 Travel Patterns

Journey to Work travel characteristics for people working in the Camperdown area are presented in Figure 9, over the three census periods. The data shows that approximately 32% of workers drive themselves to work from the area – significantly lower than the Sydney average of 69% in 2011.

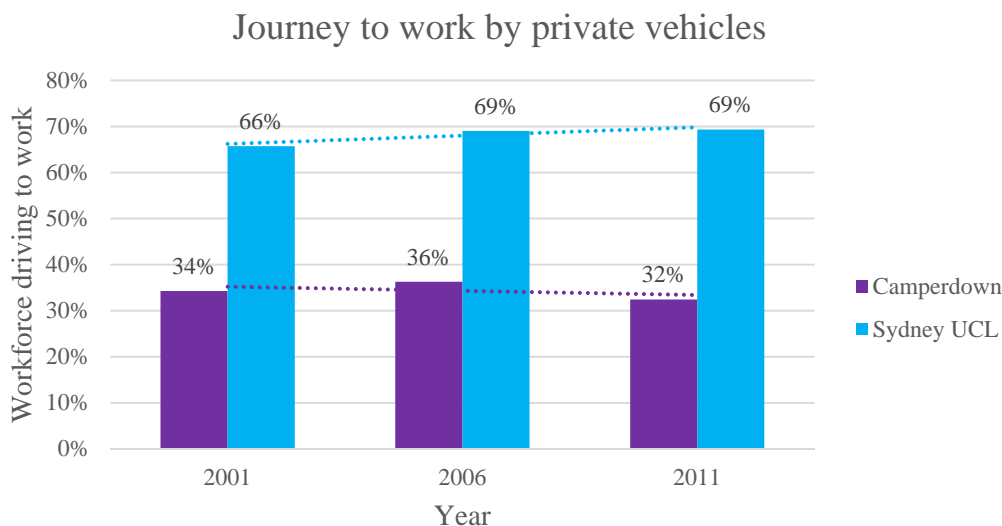


Figure 9: Journey to work mode share

The Bureau of Transport Statistics 2011 approximates 3,519 journey to work trips destined to the Stanmore precinct, and 6,307 trips originating. The origin and destination of the trips are summarised based on a spatial aggregation of Australia, a SA3 Level (Statistical Area Level 3)¹.

Of the trips destined to Camperdown by private vehicles only, the highest majority of these drivers live in:

- Strathfield (10%)
- Marrickville (9%)
- Sydney Inner City (9%)

This indicates that a high proportion of private vehicle users who work in the study area, live within some 10km from the study area.

The key trend to emerge from the 2011 Census data is the decreasing usage of private vehicle usage despite the relatively equal level of private vehicle ownership (as shown in Figure 7). Since 2006, the level of car usage has been steadily decreasing – with these journeys replaced with public transport, walking and cycling trips.

¹ <http://visual.bts.nsw.gov.au/jtwbasic/#318,317,316,245,241,237>

4.5 Road classification

To manage the extensive network of roads for which council is responsible under the *Roads Act 1993*, RMS in partnership with local government established an administrative framework of *State, Regional, and Local Road* categories. State Roads are managed and financed by RMS and Regional and Local Roads are managed and financed by councils.

Regional Roads perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads. Due to their network significance RMS provides financial assistance to councils for the management of their Regional Roads.

The classified roads in the study area are illustrated in Figure 10.

State Roads

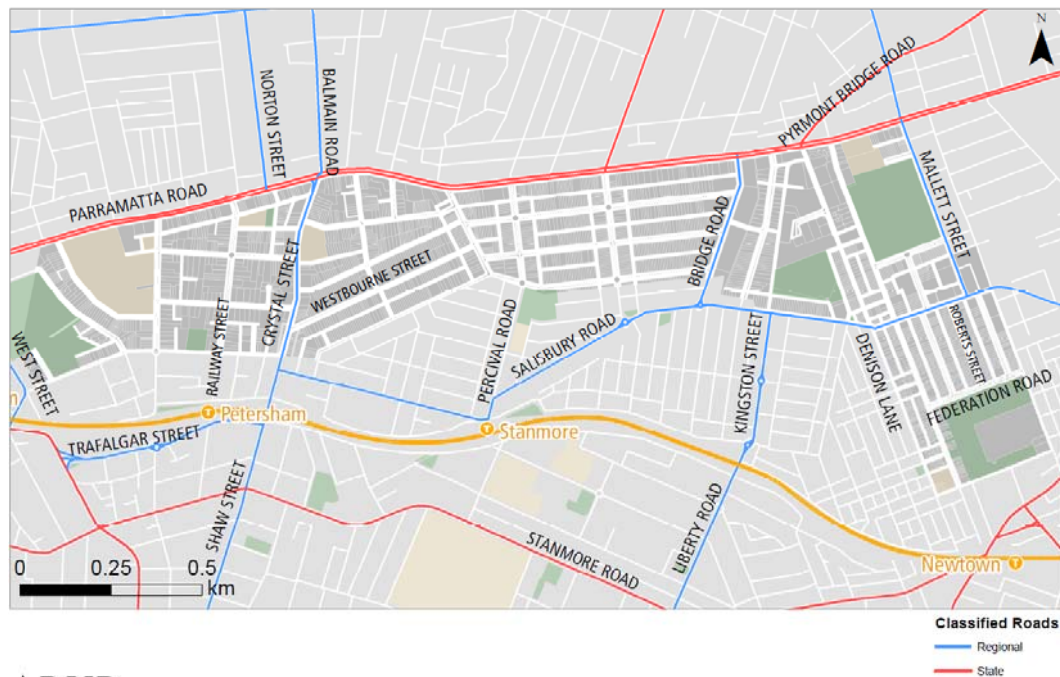
Parramatta Road runs along the northern border of the study area and is classified as a state road. Parramatta Road provides access to small retail spaces within the vicinity of the study area. Bus lanes can be found on both sides of the road. Clearways and bus lanes make parking restrictive along the road.

Regional Roads

Regional roads in the study area include Crystal Street, Bridge Road, Mallet Street and Salisbury Road.

Local Roads

The remaining roads within the corridor are local roads.



ARUP

Figure 10: Classified roads around the study area

4.6 Public transport

4.6.1 Trains

The Camperdown study area is served by Stanmore Railway Station and Newtown Railway Station. Newtown is served by the 'Airport, Inner West and South' and the 'North Shore, Northern and Western' train lines. The 'Airport, Inner West and South' Line operates between the Sydney CBD and Campbelltown, and the 'North Shore, Northern and Western' operates between Richmond and the CBD.

Newtown Station has a train frequency of approximately every 15 minutes during the day, with peak period arrivals in each direction increasing to approximately every 7 minutes.

4.6.2 Buses

Parramatta Road is a major route for buses travelling to and from the Sydney CBD. The bus routes travelling along Parramatta Road are detailed in Table 3 below.

Table 3: Sydney Buses - Bus Routes on Parramatta Road, Camperdown

Bus Number	Route
413	Campsie to City
436	Chiswick to City
438	Abbotsford to City
439	Mortlake to City
440	Bronte to Rozelle
461	Burwood to Domain
480	Strathfield and Burwood to City
483	Strathfield to Ashfield
L38	Abbotsford to City
L39	Mortlake to City
M10	Maroubra Junction to Leichhardt

4.6.3 Light rail

The light rail services between Central and Dulwich Hill. Figure 11 shows the study area relative to the Inner West Light Rail. Taverners Hill Light Rail Station is situated within 600 metres from the western border of the study area. Services operating between 6am to 11pm, frequent every 10-15 minutes during the weekday and up to 25 minutes on weekends.



Figure 11 Sydney Light Rail network

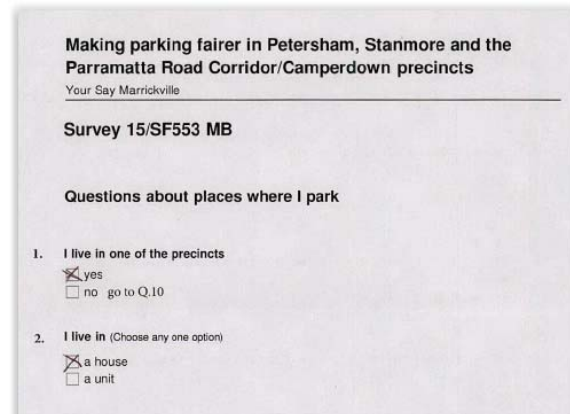
5 Community and Stakeholder Consultation

The parking strategy involved an extensive community consultation process to understand specific local issues which are currently in place within the study areas. Arup has utilised the feedback received during the consultation period to inform the recommendations of the parking strategy.

Making parking fairer was a questionnaire survey distributed by the Marrickville Council.

The survey went to all dwellings within the study area and a total of 264 responses were received.

Residents had a choice of submitting the surveys online or submitting by Australia Post.



The image shows a survey form with the following text:

Making parking fairer in Petersham, Stanmore and the Parramatta Road Corridor/Camperdown precincts
Your Say Marrickville

Survey 15/SF553 MB

Questions about places where I park

1. I live in one of the precincts
 yes
 no go to Q.10

2. I live in (Choose any one option)
 a house
 a unit

5.1 Results summary

The questions were designed to establish how residents and workers view the parking arrangements for their given area. The key findings were:

- Residents found that the most common issues in the study area were local employees taking up parking spaces, and the lack of monitoring /enforcement.
- A majority (60%) of the residents are able to park within of their residence, while the significant majority (95%) are able to park within 200 metres of their residence.
- Residents found that it was most difficult to find a convenient parking space at their residence during weekend afternoons
- Many respondents located at the eastern end of the precinct noted the parking impacts associated with staff and visitors attending Royal Prince Alfred Hospital, limiting available parking opportunities for both residents and customers of nearby businesses on Parramatta Road.
- 6% of the respondents had complaints about TAFE students and employees parking along the streets – largely focused around Crystal Street
- 3% of the respondents raised concerns of people parking near train stations on a long term basis – focused in the east of the study area near Newtown Station
- 4% of the respondents raised concerns about boat trailers being permanently parked along the streets which took up parking space
- More than 90% of those working in the precinct noted they found it difficult to find a parking space nearby to their place of employment.

The general location of residents who responded to the survey is illustrated in Figure 12.



● Survey Response Locations

5.2 Parking for residents

5.2.1 Parking distances

Survey results indicate that respondents (60%) find parking spaces within one block of their place of residence, however others (35%) park some 100 metres to 200 metres away. A small proportion of residents (5%) parked more than 200 metres from their residence. A total of 167 residents responded to this question with the results shown in Figure 13.

Typically residents of the precinct found it more difficult to locate a parking space nearby to their residence at the eastern end of the precinct (near Camperdown Park) and towards the western end near the TAFE. The area around Australia Street (near King Street) was also raised as a concern during the consultation process, as drivers are attracted to this area as they attempt to avoid the paid options on King Street and Lennox Street. This limits the available parking opportunities for residents and visitors of the nearby businesses.

Railway Street near Parramatta Road was also raised as a concern during the community consultation. It was noted this street attracts overflow parking generated by the restaurants along the nearby Norton Street, on the northern side of Parramatta Road. This high parking demand is generally evident in the evenings and on weekends.

The distance residents in the study area park from their homes are shown in Figure 14.

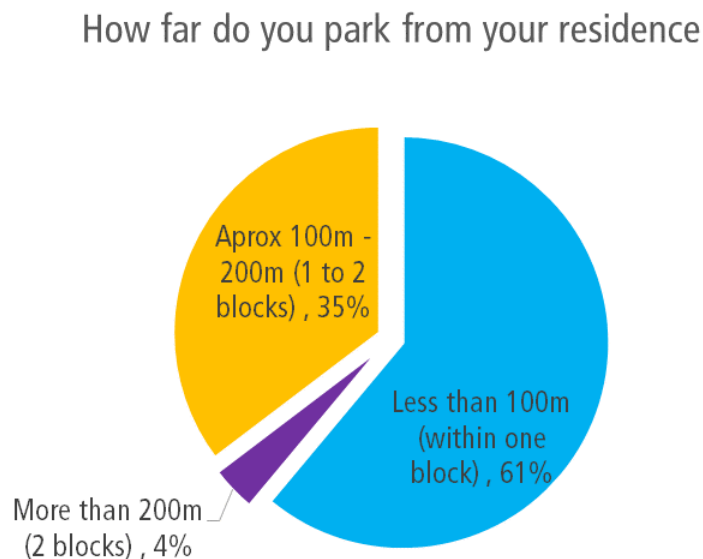
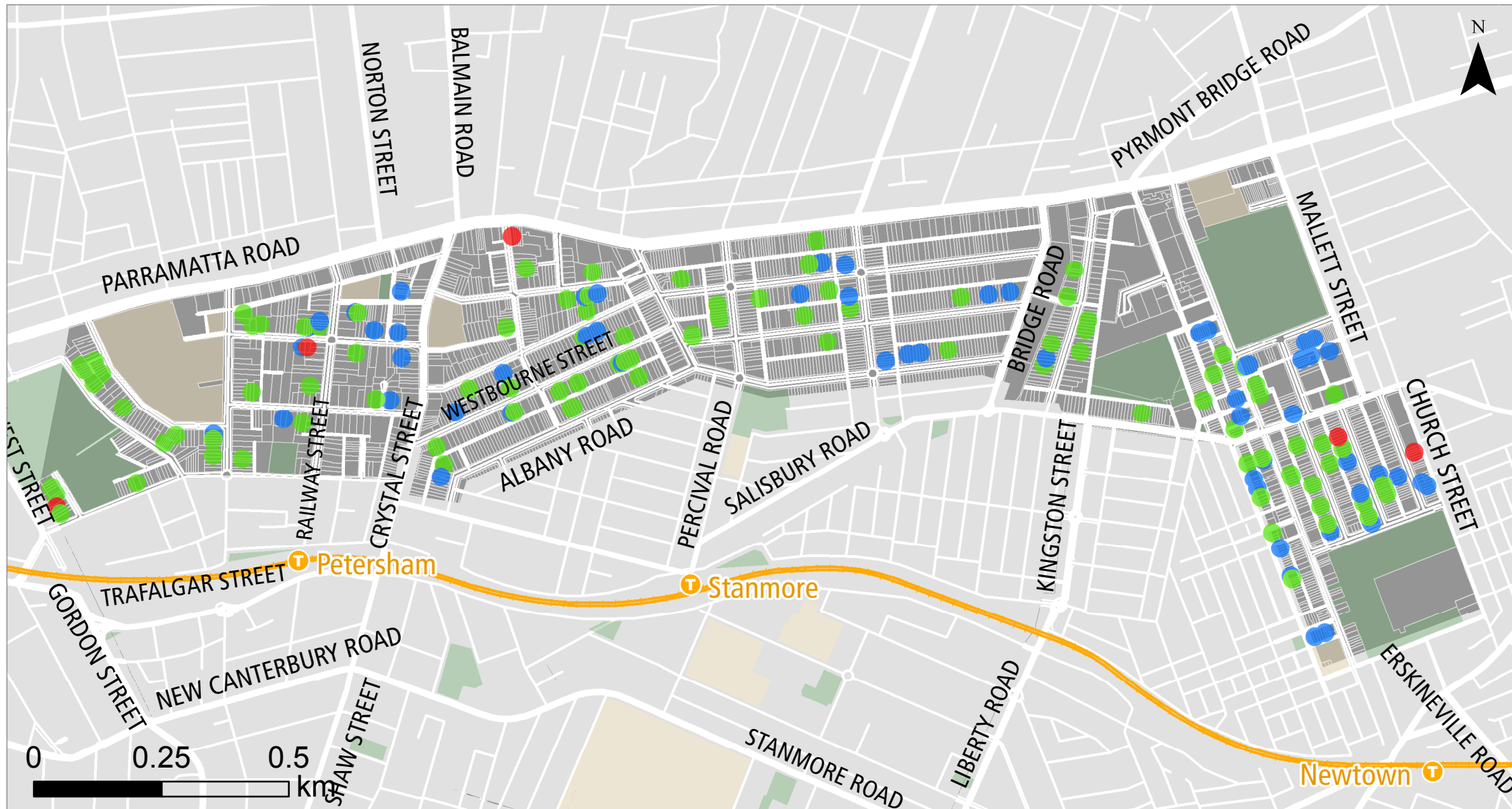


Figure 13: How far residents park from their homes



How far away do you usually park from your residence?

- Less than 100m
- 100m to 200m
- More than 200m

5.2.2 Off-street parking

63% of the respondents indicated that they had off-street parking spaces, such as garages at their residence. The majority of these residents who had such facilities used them. However, 18 respondents indicated that they did not use them, with the most common reasons being:

- They had more than one car
- Their vehicle was too big to fit in the off-street car park
- It was more convenient for them to park along the street

Do you have off-street parking at your residence?



If you do have an off-street space, do you use it?

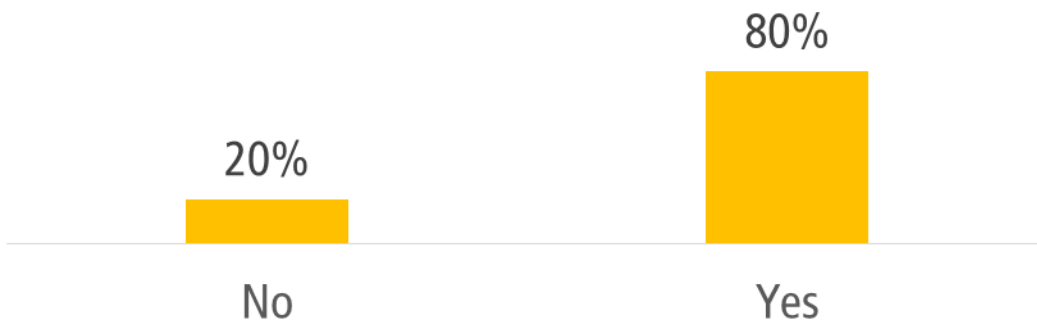


Figure 15: Proportion of residents with off-street parking at their residence

5.2.3 On-street parking availability

Survey data indicated that residents who had issues with parking, found it the most difficult to find on-street parking during the afternoon, on weekends.

Residents found that the most common issues in the study area were local employees taking up parking spaces, and the lack of monitoring.

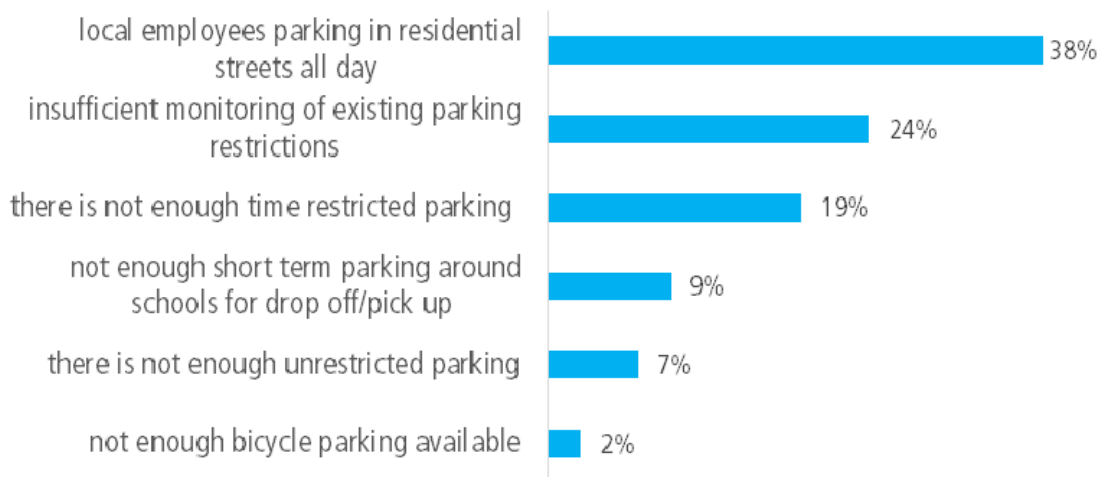
Residents living at the western end of the precinct (e.g. Railway Street) and the eastern end (e.g. Denison Street) noted issues with local employees taking up parking spaces. This reflects the proximity of the TAFE, Parramatta Road businesses and Royal Prince Alfred Hospital to these areas.

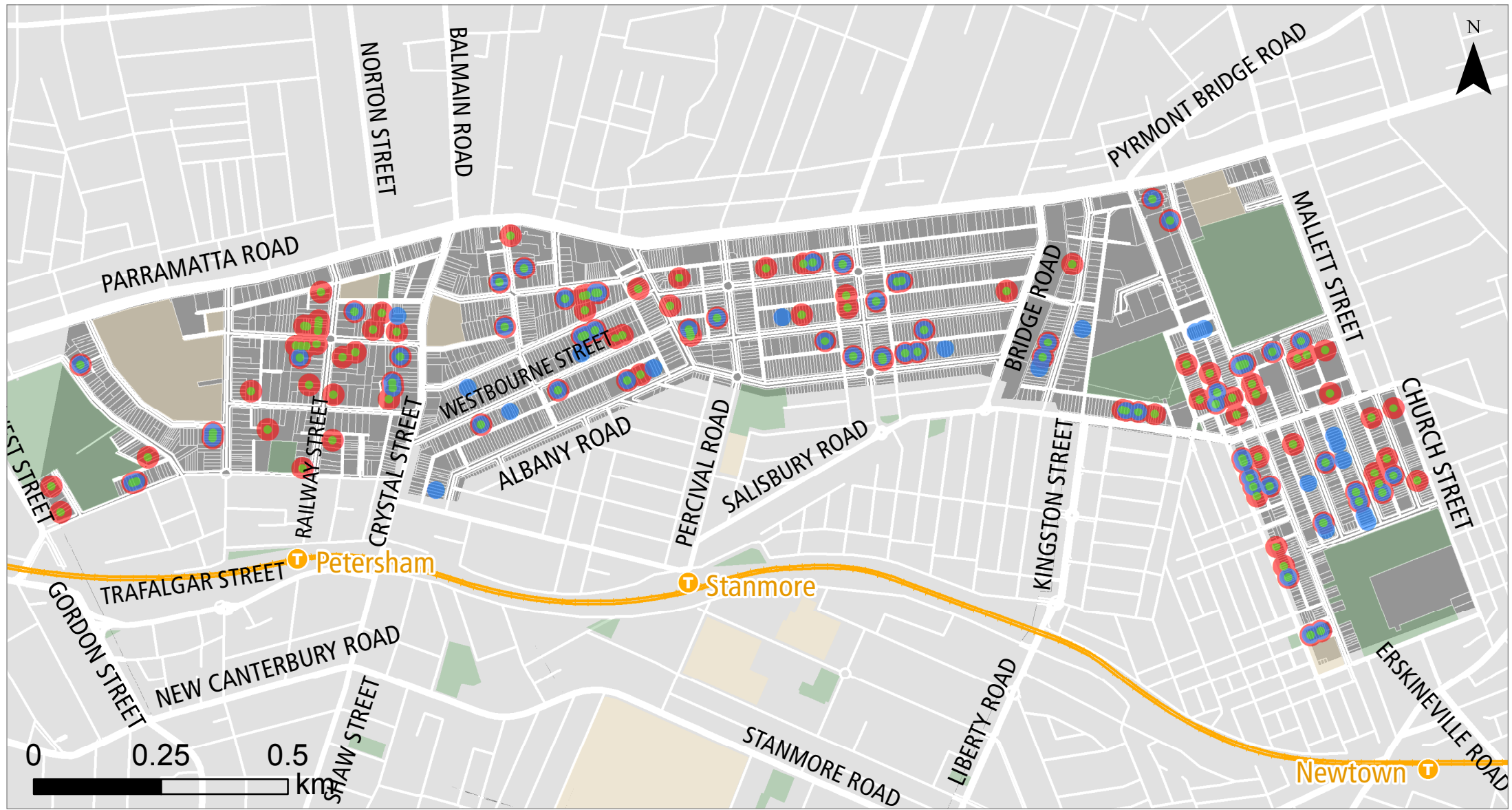
A number of responses were received regarding the unrestricted nature of parking near both Camperdown Park (bounded by Fowler Street, Mallet Street and Australia Street) and Camperdown Memorial Rest Park (bounded by Australia Street, Federation Road and Church Street). The responses noted that these parking spaces are sometimes occupied by campervans for long periods.

A number of respondents, particularly those living along Roberts Street near Camperdown Park, raised concerns of insufficient monitoring and enforcement of parking restrictions.

The location of the responses received are illustrated in Figure 16.

What do you consider to be the main parking issues in the precincts?





- Not enough time restricted parking
- Insufficient monitoring / enforcement
- Local employees parking on streets

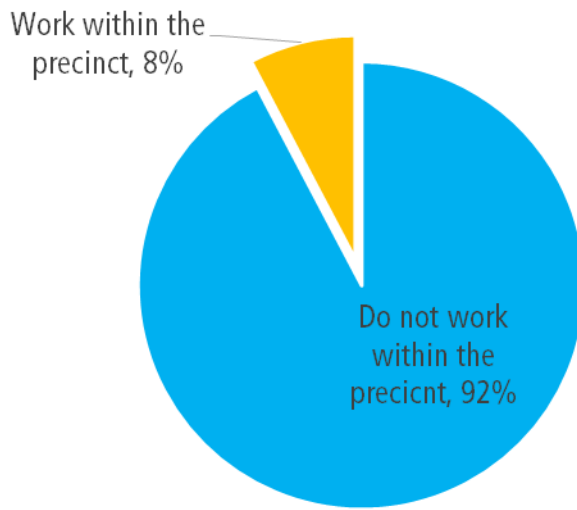
5.3 Travel to work

The questionnaire survey included questions to gain an understanding of how residents got to work, and any difficulties they might face with parking issues. Residents who do not have off-street parking at their workplace within Marrickville, generally find it difficult to park on-street.

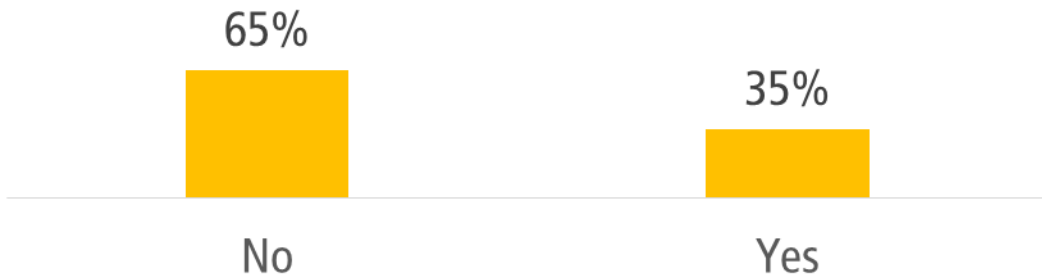
Of the 259 respondents, 20 (8%) worked within the precinct of the Marrickville LGA. This sample size is an accurate representation of the proportion of local workers, as suggested by the journey to work data in section 4.4, where 9% were found to work in Marrickville.

A majority of the residents who worked locally (13 people), did not have off street parking facilities at their workplace. Of these, only 9% find parking spaces at their workplace easily along the streets. 64% indicated that they often had to circle the area to find a parking space. This indicates the difficulties employees face in the precinct finding a parking space nearby to their place of work.

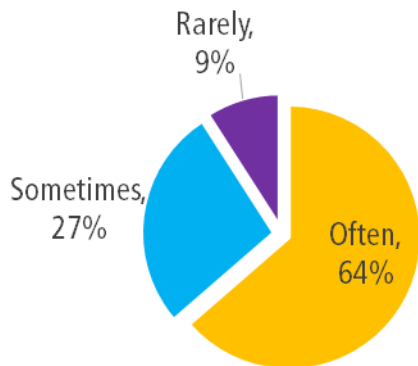
Where do residents work?



If you work within the precinct, do you use off-street parking at your workplace?



No
↓
you have to circle the area to find a parking space..



5.4 Parking policies

The questionnaire survey included questions to gain an understanding of how residents felt about the existing parking schemes and what could be done to improve it. A summary of these responses are provided in Figure 17, with the location of these responses illustrated in Figure 18. Over 80% of respondents noted they would prefer some type of resident parking scheme.

Demand for an expanded resident parking scheme was greatest at the eastern end of the corridor near Camperdown Oval and the western end near Crystal Street, the TAFE and Parramatta Road.

Issues raised during the community engagement process with respect to current parking policies include:

- Inconsistency between the current M1 (Camperdown) and M3 (Newtown-Enmore) zones in terms of times of restrictions. This is an issue for residents at the eastern end of the Parramatta Road / Camperdown precinct which have reduced time restricted parking compared with the adjacent M3 zone.
- Streets within the M1 zone have time restricted parking on both sides of the street, while those in the adjacent M3 zone only have restrictions on one side of the street.
- There is a scattered resident parking scheme in Area M5 (Petersham) – largely driven by demand from the TAFE. Residents noted that they would like to see this area widened due to parking impacts associated with the TAFE.
- Parking near the Fanny Durack Aquatic Centre and Petersham Oval at the western end of the precinct is a common concern. Residents of the eastern end of Station Street (opposite Petersham Oval) are entitled to a resident parking permit as they are within the M16 (Lewisham) parking area, however those at the western end of the street are not.

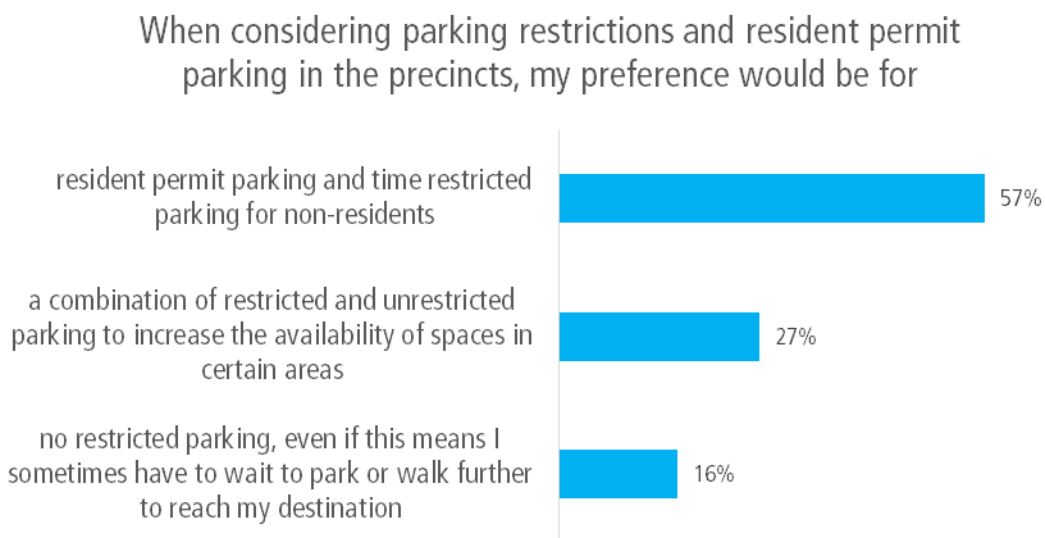
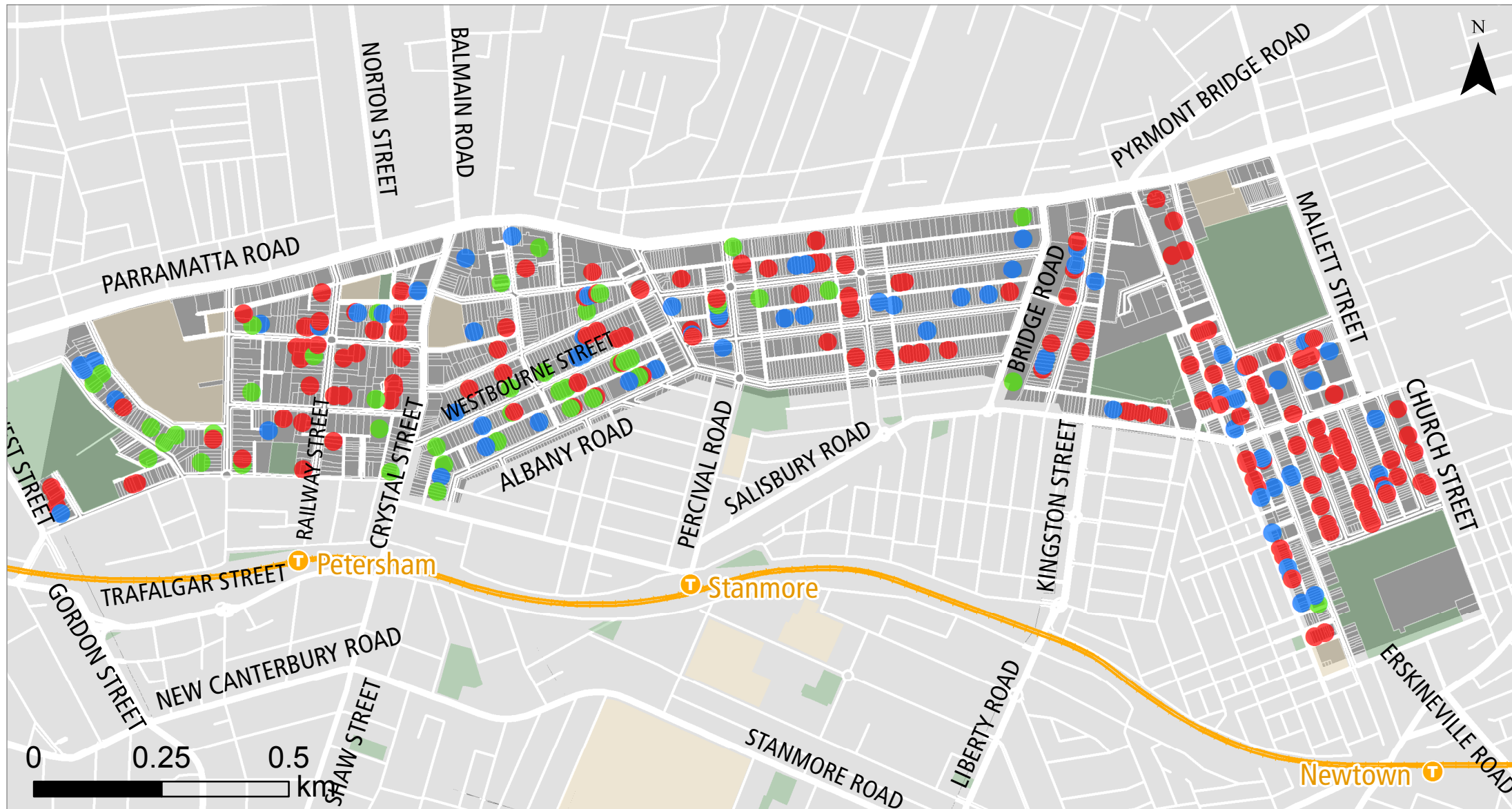


Figure 17: Preference for a parking scheme



- Preference for parking permits and restrictions**
- resident permit parking scheme
 - a combination of restricted and unrestricted parking
 - no restricted parking

ARUP

Parramatta Road Corridor and Camperdown Parking Study - Figure 18

6 Parking Survey

6.1 Overview

Parking surveys were undertaken by “Matrix Traffic and Transport Data” to establish the number of available spaces and the demand for parking within the study area. The surveys, undertaken at hourly intervals, recorded the number of potential parking spaces and their utilisation. The surveys were conducted at the following dates:

- Weekday – Tuesday 8am to 6pm and Thursday 8am to 8pm

This survey aimed to determine the parking situation on a typical weekday with residents vacating parking spaces when driving to work in the morning, spaces being occupied by visitors, TAFE students, to the area during the daytime and residents occupying parking spaces when returning from work in the evening.

- Saturday 10am to 6pm

The weekend survey aimed to determine the parking situation on a typical weekend. Survey data indicated that residents who had issues with parking, found it the most difficult to find on-street parking during the afternoon, on weekends, which was discussed in section 5.2.3. The surveys would provide an indication of the busiest streets during these periods, and provide guidance towards implementing a fair and reasonable strategy.

6.1.1 Survey methodology

Occupancy

In order to maintain consistency throughout the survey data, surveyors assumed the number of parking spaces on a street was the maximum number of spaces which could legally fit within the area. In practice, vehicles are often parked with gaps greater than required for pulling out of a parking space. Therefore it can be assumed that full capacity is reached when parking occupancy is over 85%.

Duration of stay

To gain an understanding of the duration of stay, number plates were recorded on an hourly basis. An average duration of each street section is then calculated based on the number of vehicles. This information would provide an estimate of the proportion of residents and visitors using the on-street parking space.

6.2 Theoretical parking capacity

6.3 Parking supply

The survey recorded 4,251 on-street parking spaces across the study area. Private commercial car parks were not considered as part of the study area.

6.3.1 On-street parking supply

A summary of the on-street parking supply by area surveyed is summarised in Table 4.

Table 4: Summary of On-Street Parking

Parking control	Total supply (number of spaces)	Proportion of total supply
P 5 min	11	0.3%
P 10 min	18	0.2%
1/2P	10	0.1%
1/4P	5	0.1%
1P	255	3.0%
2P	74	0.9%
Unrestricted	2,877	35.4%
Bus zone	5	0.1%
Disabled	26	0.5%
Loading zone	5	0.1%
Mail zone	4	0.1%
Motorbikes only	0	0.0%
M1 Permit Holders	577	11.1%
M3 Permit Holders	70	1.5%
M5 Permit Holders	207	4.5%
M15 Permit Holders	107	2.5%
Total	4,252	100.0%

6.4 Parking occupancy

6.4.1 Permit holder areas

Areas with time restricted parking (permit holders excepted) – i.e. a resident parking scheme (RPS), were investigated. A total capacity of some 961 spaces were estimated had these enforcements, with the average occupancy profile shown in Figure 19. The data was collected for the following areas, shown in Table 5.

Table 5: Permit holder areas

Permit type	Number of spaces
M1 (Camperdown)	577
M3 (Newtown-Enmore)	70
M5 (Petersham)	207
M15	107
Total	961

Data shows that occupancy rates in permit areas are higher during weekends, when parking restrictions are not enforced. During the weekdays, occupancy rates were found to be lower when compared to short term and unrestricted parking areas. This shows that the implemented resident parking schemes are relatively effective in discouraging long term usage.

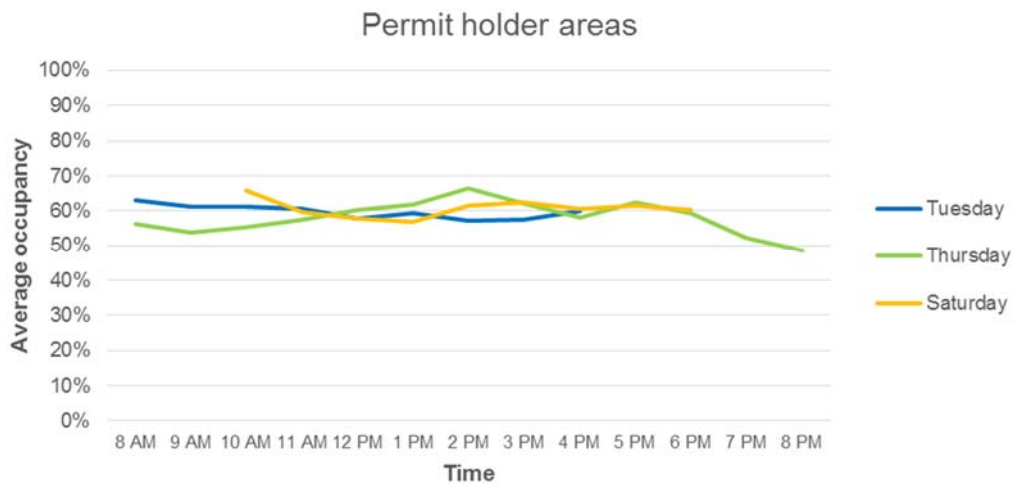


Figure 19: Permit holder areas - Average hourly occupancy

As no parking restrictions are currently in force for these streets on weekends, special consideration was given to the weekend survey results. A number of streets in the eastern end of the precinct, within the M1 area, were found to exhibit occupancy levels of 85% or greater for three or more hours of the day.

Occupancy levels on Queen Street and Charles Street within the M5 area were also recorded to exceed 85% for three or more hours of the day.

6.4.2 Time Restricted Parking Areas

The occupancy profile for short term parking with time restrictions between 5 minutes and 2 hours is presented below in Figure 20. These areas have typical parking restrictions enforced during the following periods:

- 8:30am-6pm (Mon-Fri)
- 8:30am-12:30pm (Sat). The analysis was based on a total of 373 available short term parking spaces.

The occupancy rates for short term parking is higher during weekdays, with a peak occupancy rate of around 85% occurring between 12pm to 1pm. The occupancy rate during weekends are relatively constant, peaking at 50%.

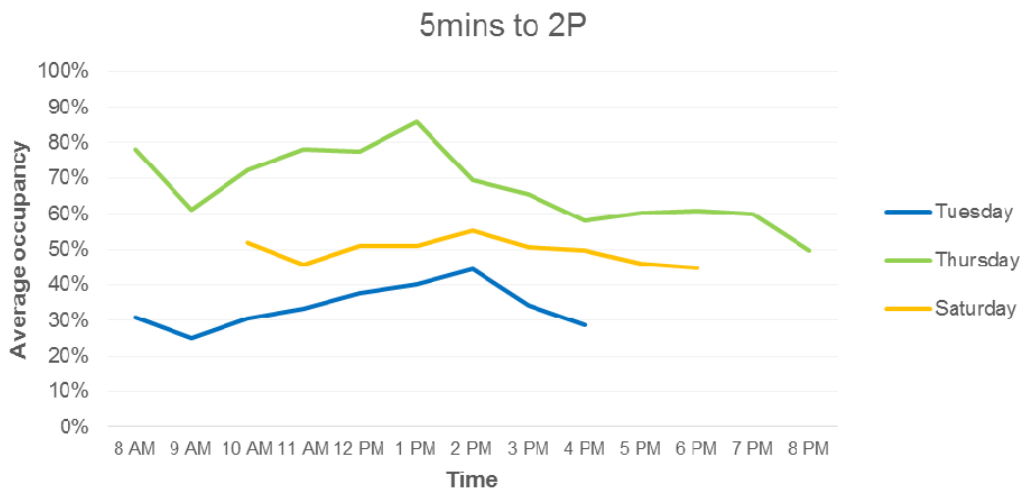


Figure 20: Short term parking - Average hourly occupancy

6.4.3 Unrestricted parking areas

Unrestricted parking across the study area have a relatively flat occupancy profile throughout the day, indicating that these spaces are used for long term parking. Occupancy rates, shown in Figure 21 are higher during weekdays, with a peak of around 70% at 3pm. This gradually decreases after 5pm to 60%, and is indicative of employees leaving the study area. This suggests that the remaining 60% of utilised spaces are occupied by residents or long term parkers. This is further justified by Saturday's occupancy profile remaining constant at 60% in the morning.

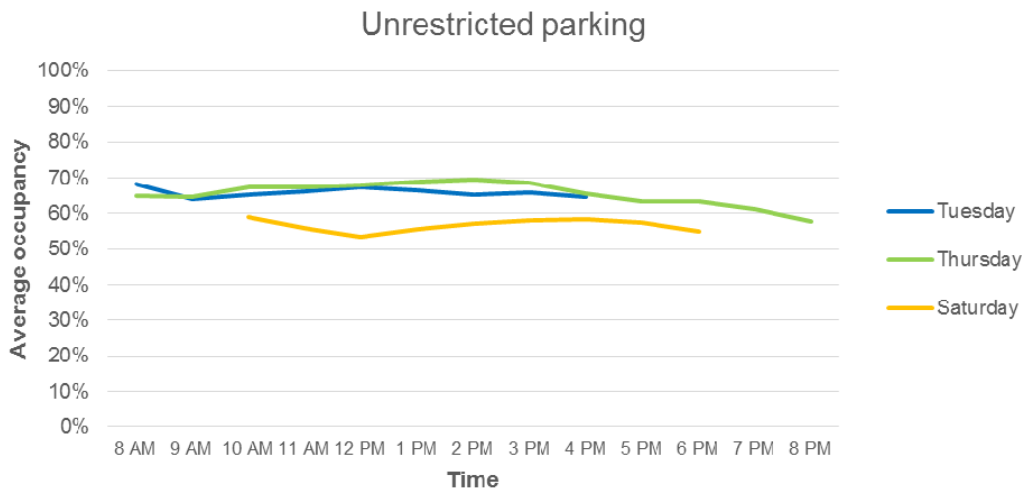


Figure 21: Unrestricted parking - Average hourly occupancy

6.4.4 Duration of stay

Car parking occupancy and duration of stay surveys were conducted to assess the demand and the length of stay of the parking spaces within the study area. A comparison of the duration of stay between unrestricted and permit holders parking areas is shown in Figure 22.

In unrestricted parking areas, data indicates that vehicles are parked for an average duration of seven hours during the weekdays, suggesting that these spaces may be used by employees or students of the TAFE.

Duration of stay during weekends were found to be lower than weekdays, suggesting a higher turnover. This is reflective of the reduced extent of employee/commuter parking on weekends as compared to weekdays.

An overall longer duration of stay is observed in unrestricted areas, indicating that permit holder policies are generally effective during the weekdays.

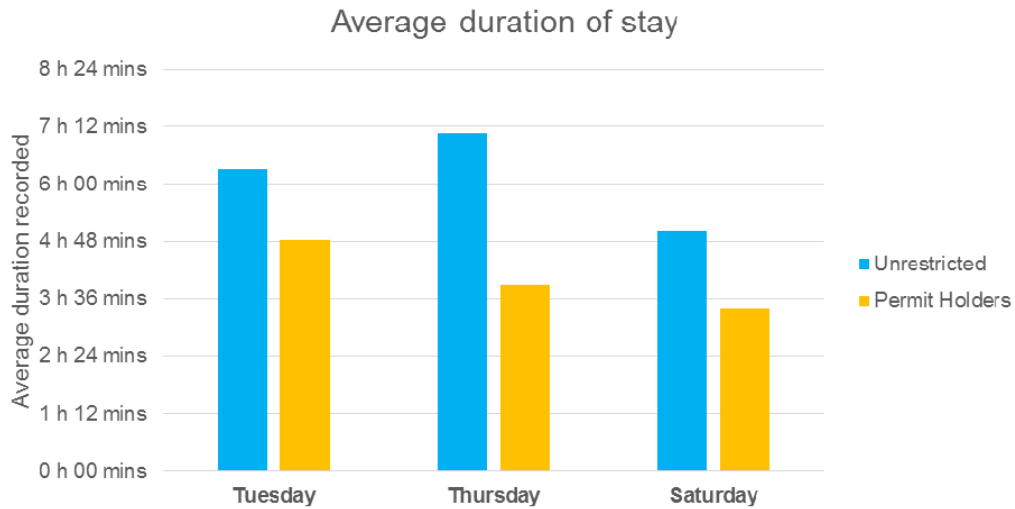


Figure 22: Average duration of stay – study area wide

6.5 Parking occupancy maps

Parking occupancy maps, which are presented in section 6.5.5, have been produced based on the survey data gathered, to gain an accurate understanding of the occupancy in each street. Together with the feedback from stakeholder surveys, busier streets were identified to be considered in guiding policy making.

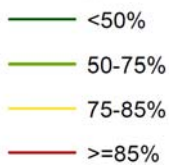
Each set of maps show the parking occupancy rates of various sections of the street, over the Tuesday, Thursday and Saturday periods.

6.5.1 Average occupancy

The average occupancy of each section of a street, over the entire survey period is shown in these maps. This data provides a high level analysis of existing streets that are at or above the theoretical parking capacity of 85%.

However, this does not provide a refined indication of peak period occupancies, being an occupancy analysis over the entire survey period, this. For example a street might be over an 85% occupancy from 12pm to 3pm, but may have an average occupancy of less than 85% over the survey period. The following bands have been identified on a colour scale:

Average Occupancy



The following streets were found to have an occupancy over 85% throughout the period of the survey, during the weekdays:

- Fort Street
- Margaret Street
- Charles Street
- Westbourne Street
- Corunna Road
- Albany Road
- Salisbury Road
- Australia Street
- Mallet Street
- Federation Road
- Lennox Street

6.5.2 Peak occupancy

The peak occupancy for each survey period is shown in these maps, with similar bands used described in section 6.5.1. This provides an indication of the busiest period of the day, for each street during the survey period.

6.5.3 85% or higher occupancy for 3 or more hours

Streets with 85% or higher occupancy, for three or more hours (both consecutive and non-consecutive), over the survey period are shown in these maps. This provides a clear indication of streets that need further investigations and possible policy implementations.

The following do not have a resident parking scheme on either side of the street, and were found to fit this criteria during the weekdays:

- Australia Street
- Margaret Street
- Corunna Road
- Cannon Street
- Petersham Street
- Westbourne Street
- Fort Street
- Railway Street

6.5.4 Average occupancy at key time periods

Hourly occupancy rates throughout the survey periods are shown in Appendix A.

During the Thursday survey period, a general trend was observed that parking occupancy increased from 10am and reached a peak at 1pm. Streets located near parks tended to have an increase in occupancy at 3pm, while it decreased in other streets. Occupancy was the lowest at 8pm, with the following streets remaining at capacity between 8pm to 9pm:

- Margaret Street
- Corunna Road
- Macaulay Road
- Salisbury Road
- Westbourne Street
- Fort Street
- Federation Road
- Mallet Street

6.5.5 Occupancy map catalogue

Average Occupancy

Figure 23: Average occupancy – Tuesday

Figure 24: Average occupancy – Thursday

Figure 25: Average occupancy – Saturday

Figure 26: Peak occupancy – Tuesday

Figure 27: Peak occupancy – Thursday

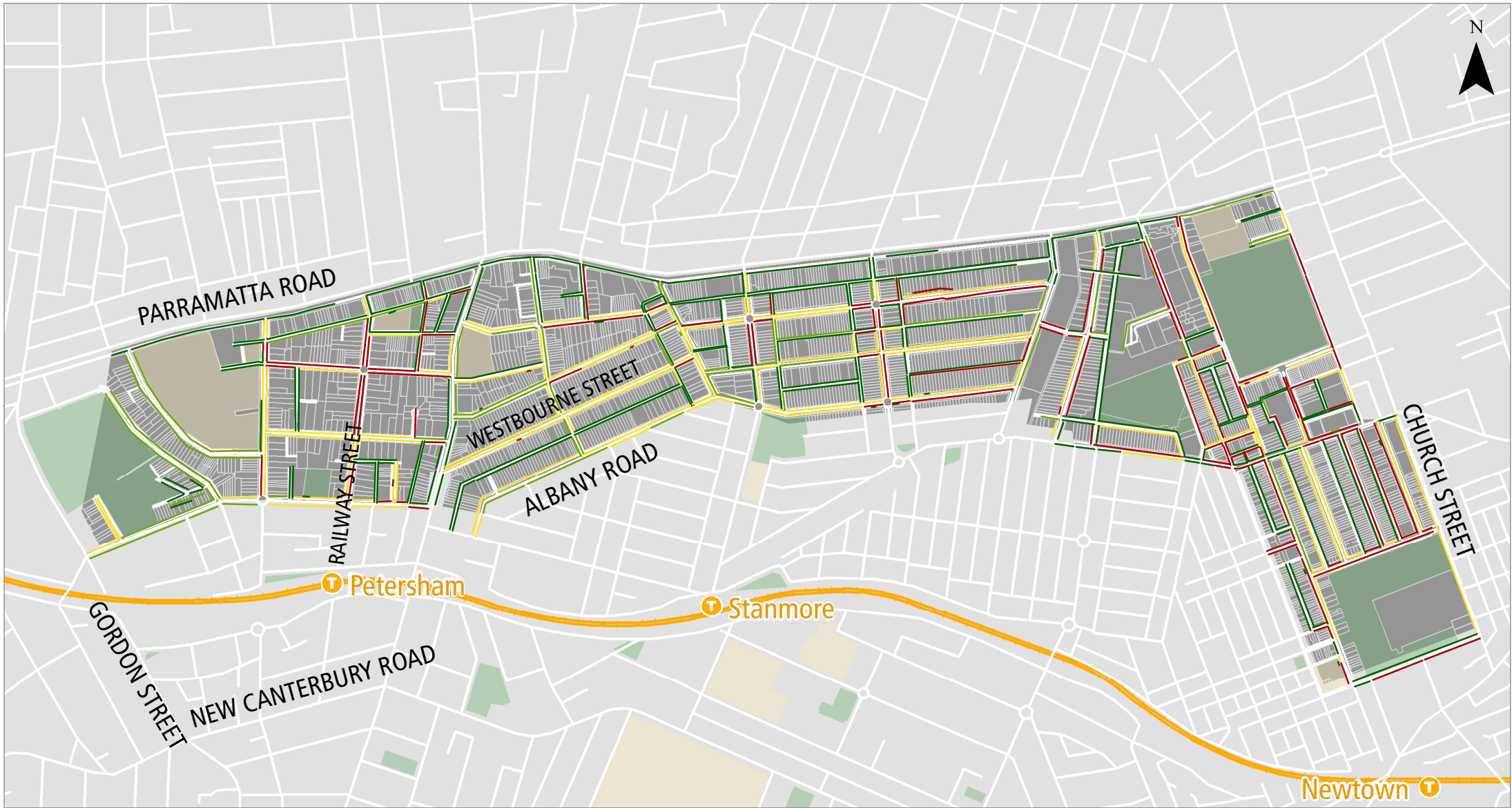
Figure 28: Peak occupancy – Saturday

Figure 29: 85% or higher occupancy for 3 or more hours – Tuesday

Figure 30: 85% or higher occupancy for 3 or more hours – Thursday

Figure 31: 85% or higher occupancy for 3 or more hours – Saturday

Appendix A. – Average hourly occupancy at throughout the survey period

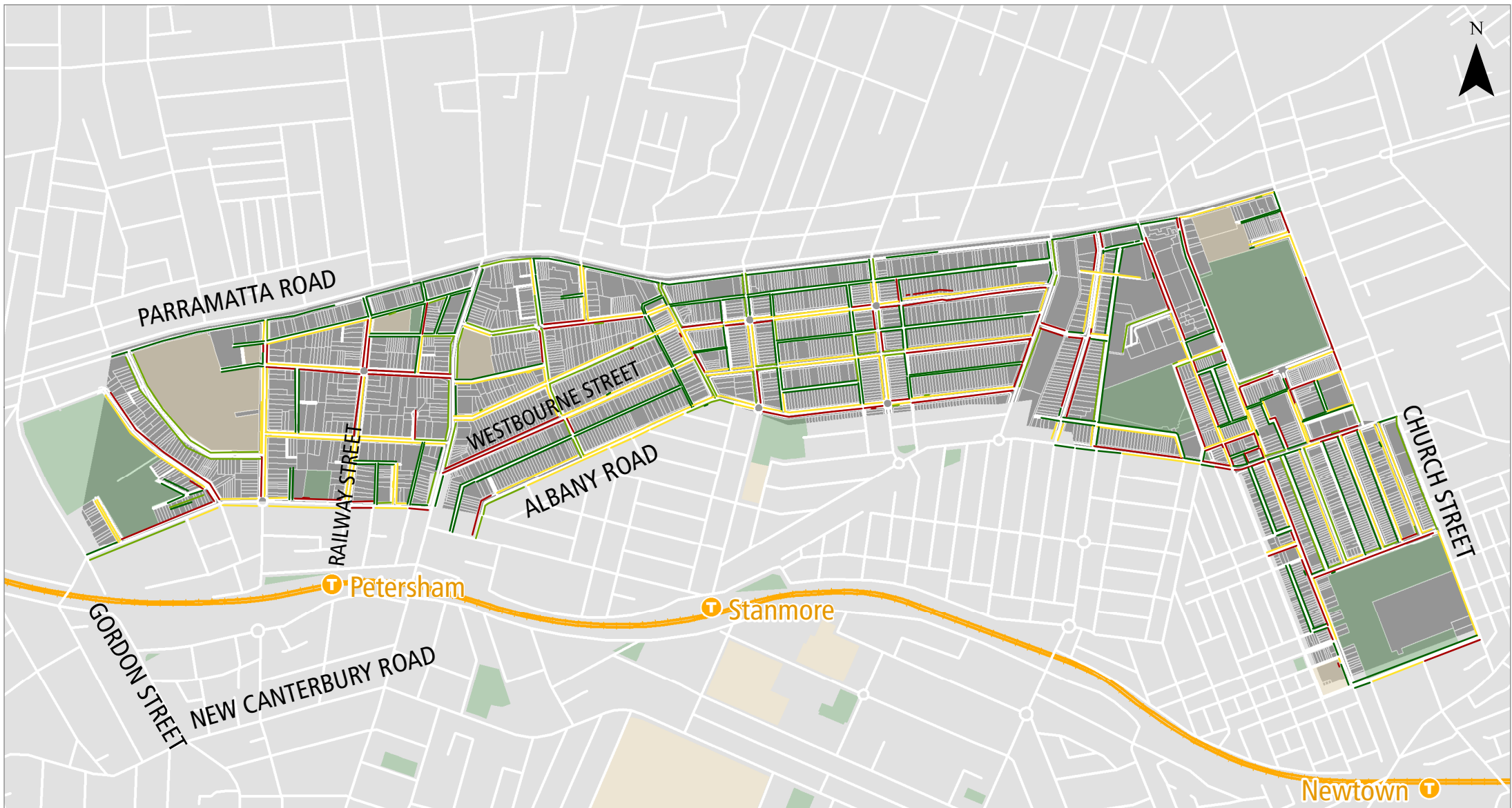


ARUP

Parramata Road Corridor and Camperdown Parking Study - Figure 23

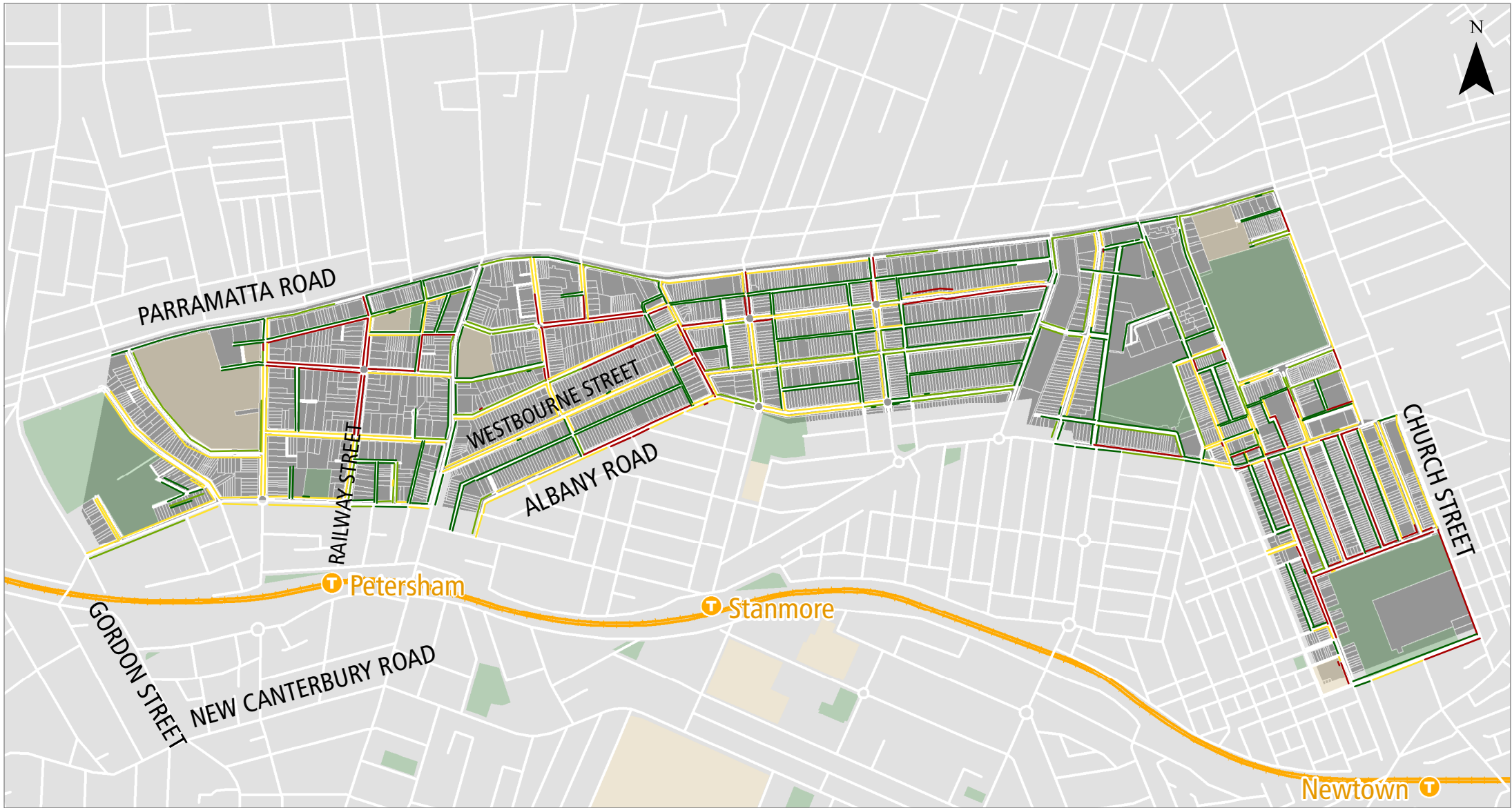
Tuesday Average Occupancy
Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%



ARUP

Parramatta Road Corridor and Camperdown Parking Study - Figure 24

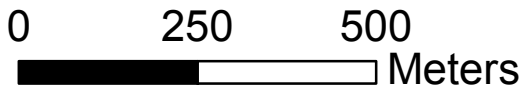
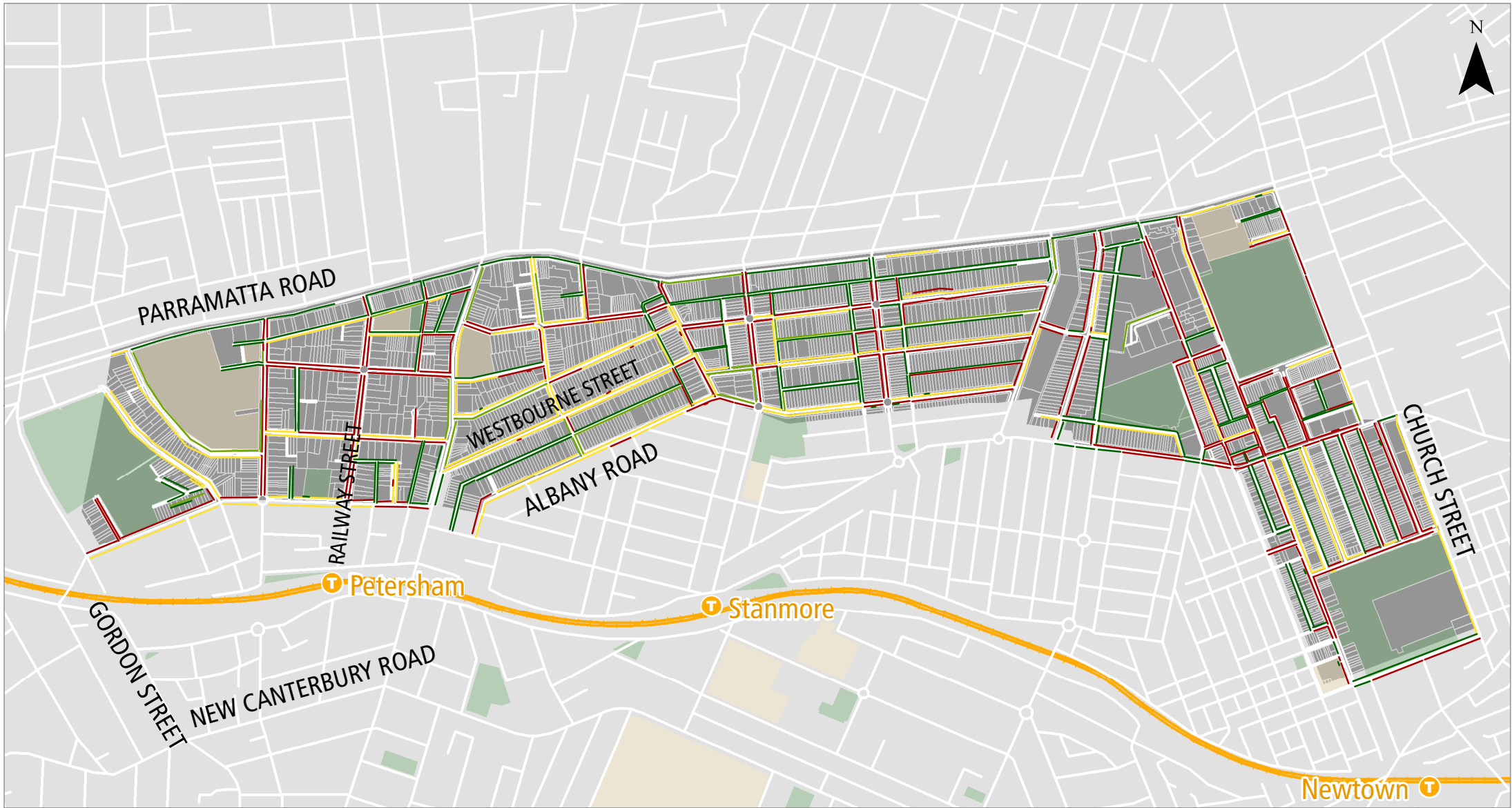


0 250 500
Meters

Saturday Average Occupancy
Average Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%

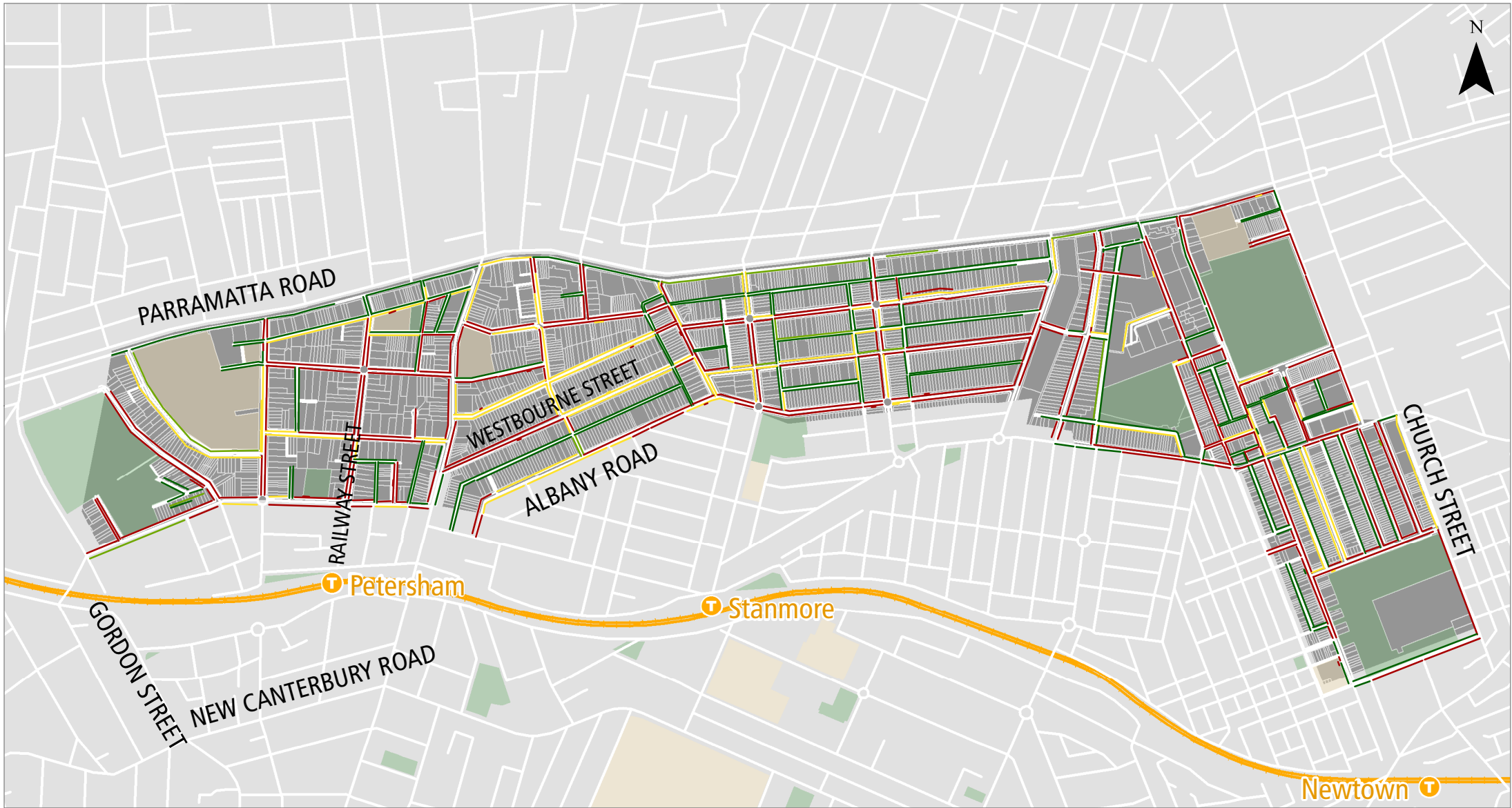
ARUP



Tuesday Peak Occupancy
Peak Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%

ARUP

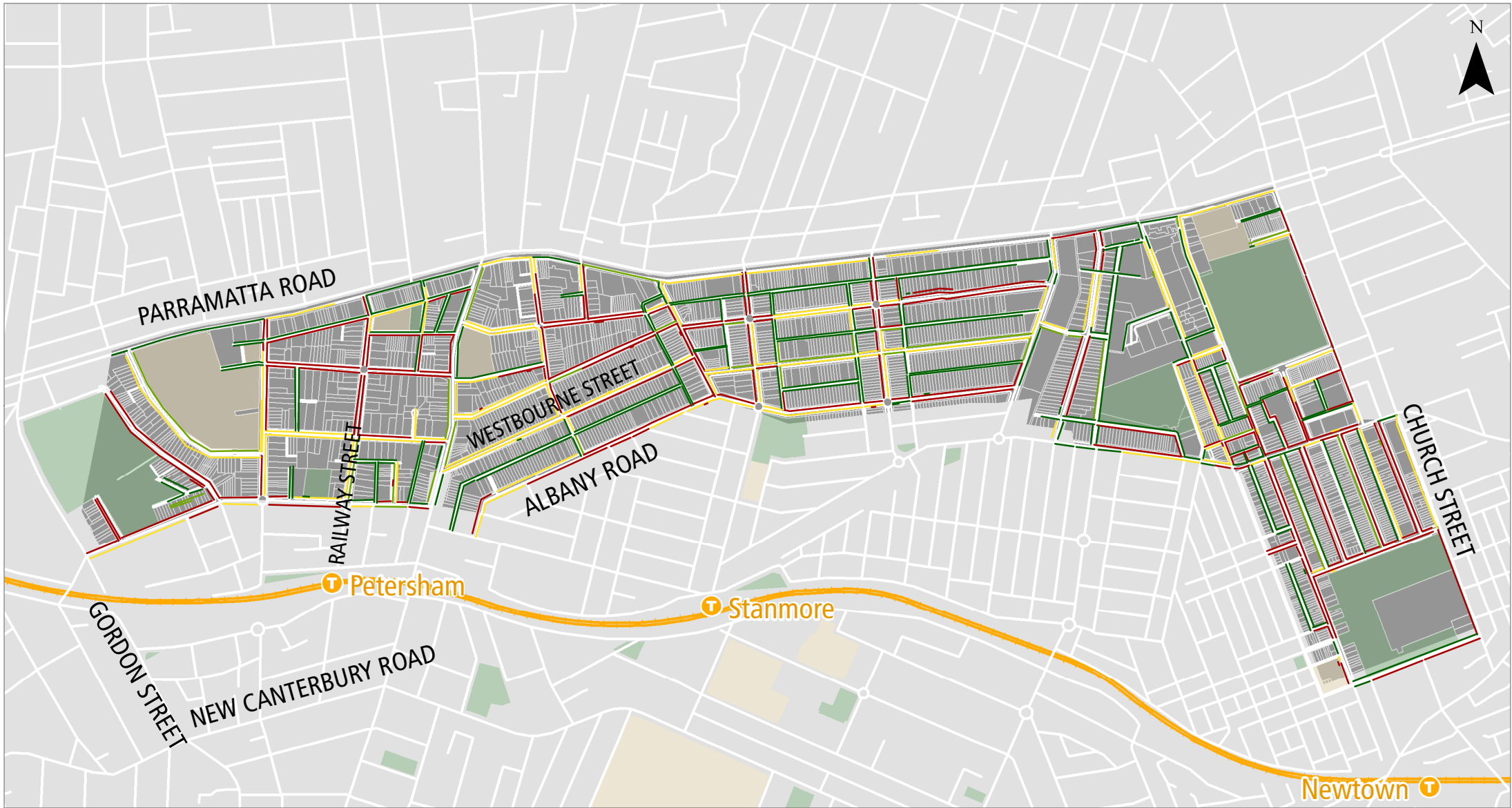


ARUP

Parramatta Road Corridor and Camperdown Parking Study - Figure 27

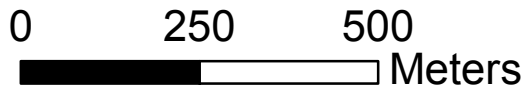
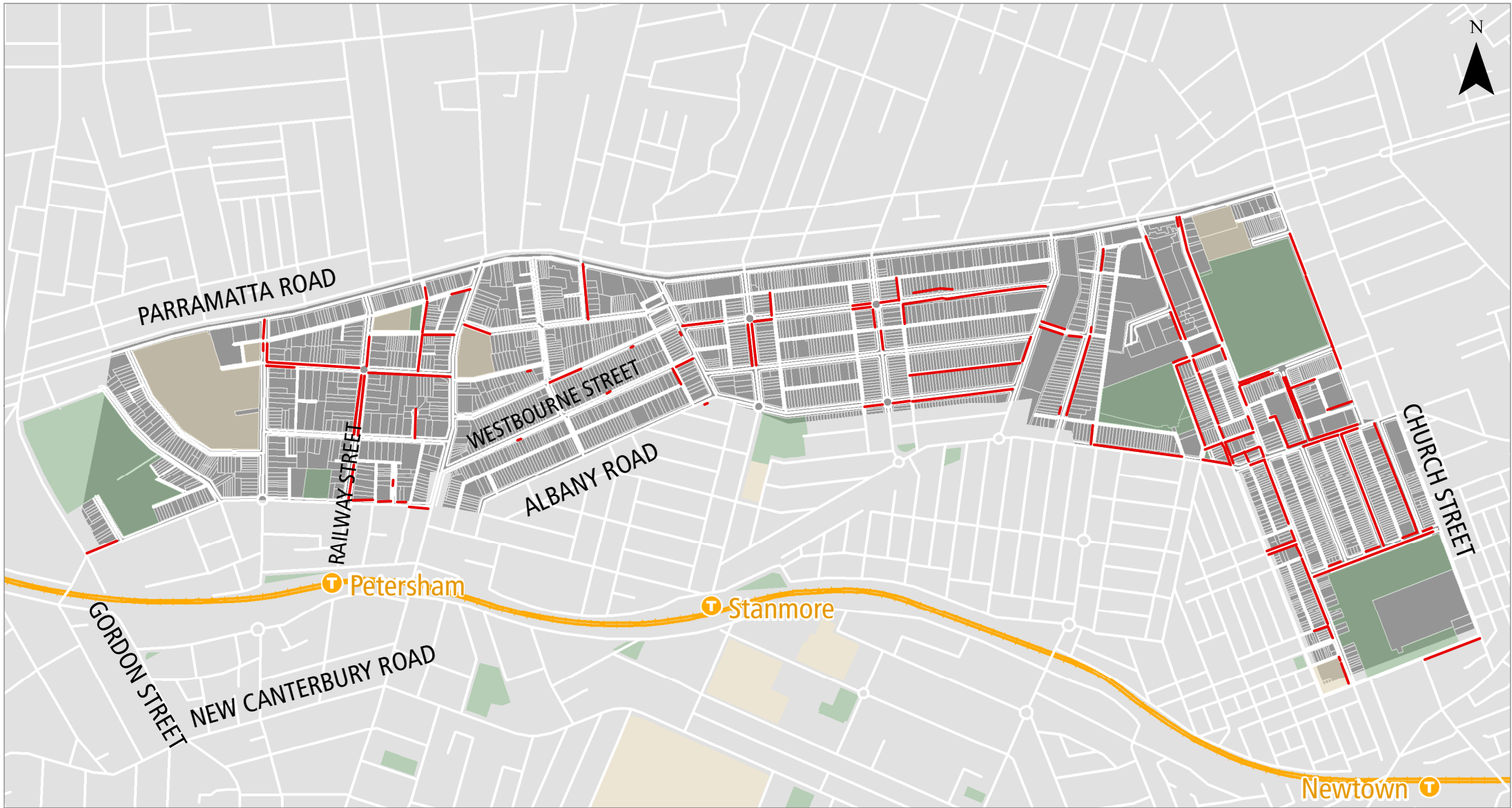
Thursday Peak Occupancy
Peak Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%



ARUP

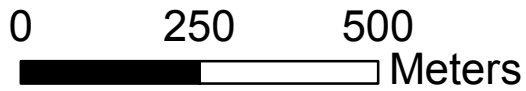
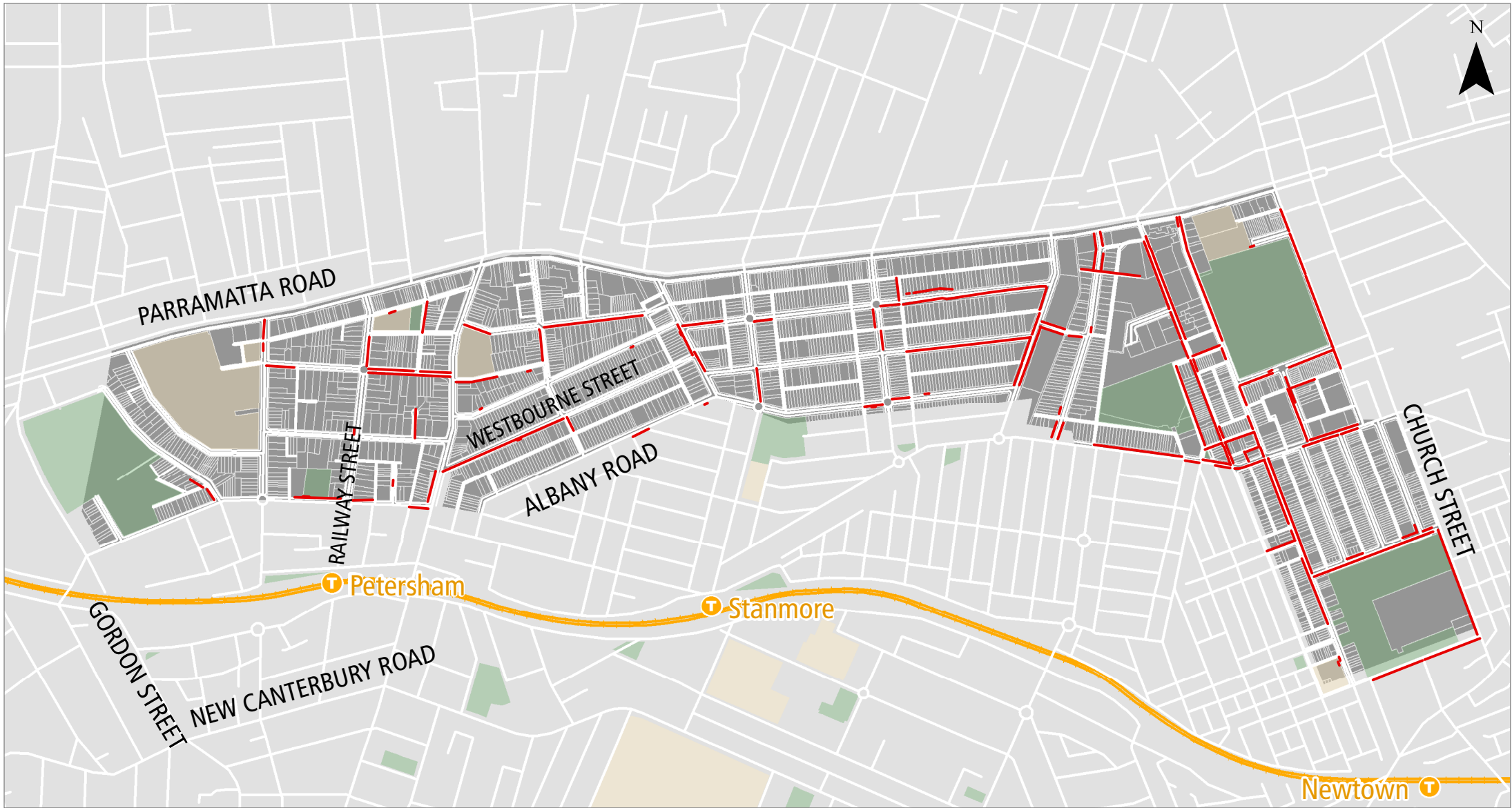
Parramatta Road Corridor and Camperdown Parking Study - Figure 28



Tuesday
Over Capacity
 — 3 hours above 85%

ARUP

Parramata Road Corridor and Camperdown Parking Study - Figure 29



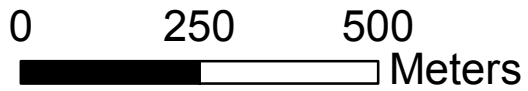
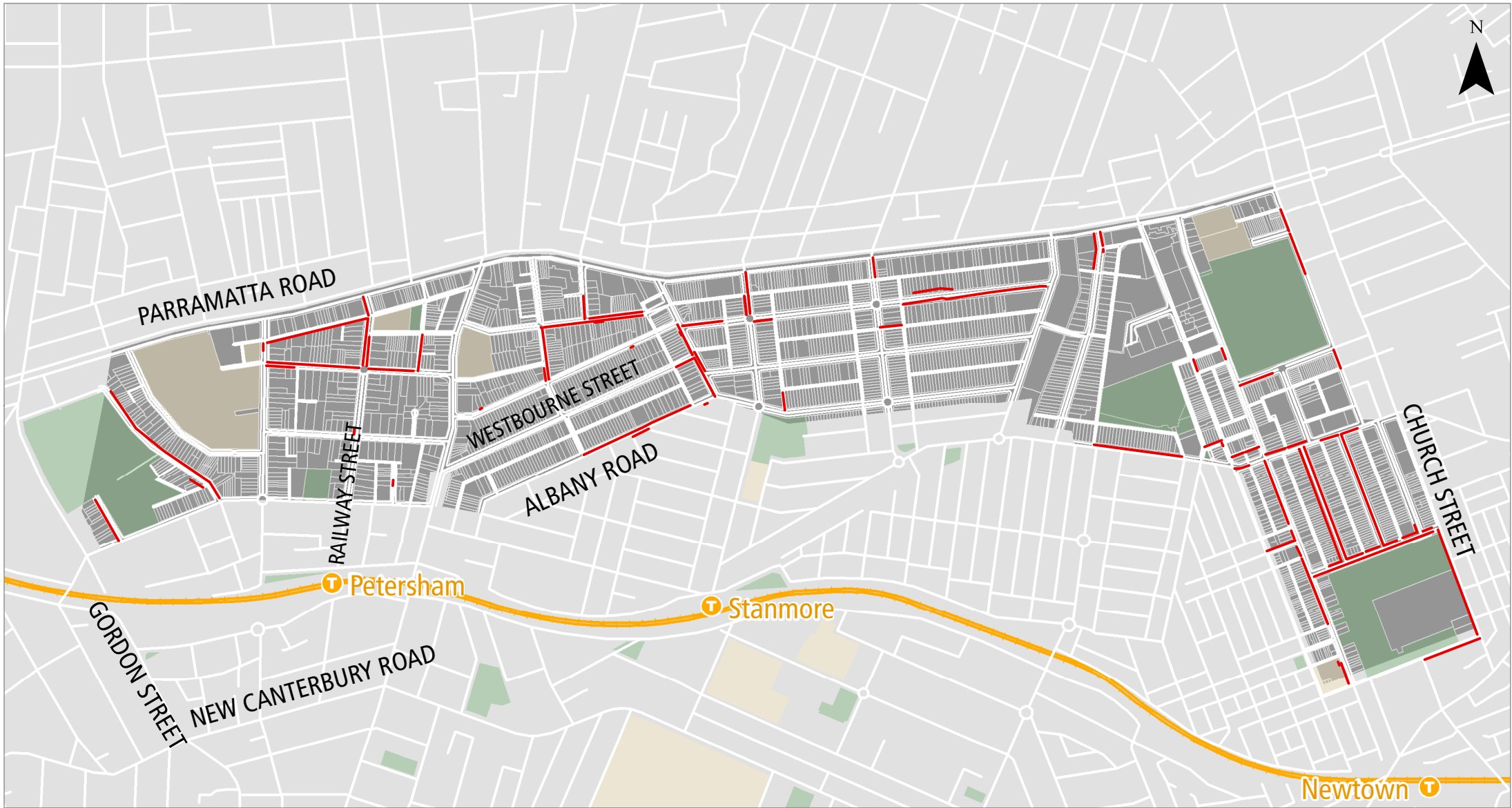
Newtown

Thursday
Over Capacity

3 hours above 85%

ARUP

Parramatta Road Corridor and Camperdown Parking Study - Figure 30



Newtown

Saturday
Over Capacity

3 hours above 85%

ARUP

7 Parking Management Recommendations

7.1 Overview

Following community feedback and review of parking survey data, a suite of draft recommendations have been developed. The aim of the parking recommendations is to provide – where possible – an improved management system for parking for the area. The draft recommendations proposed takes into consideration:

- The current transport environment and conditions in the Parramatta Road / Camperdown precinct;
- Existing parking controls in neighbouring areas – both in the Marrickville Council and City of Sydney Local Government Areas
- Feedback received during the community and stakeholder engagement process; and
- Results of the parking surveys conducted in the precinct

7.2 Key Principles

There is a high demand for parking in sections of the Parramatta Road / Camperdown precinct due to the convenient inner city location of both residential and business areas. Based on the community consultation and parking occupancy surveys which have been undertaken for this study, it is evident that parking demand can exceed supply during the peak times. On many occasions residents have to compete with visitors and all day commuters for a suitable parking space within reasonable walking distance from their home.

Typically, car parking occupancy levels greater than 85% are often considered to represent the theoretical capacity. A utilisation rate higher than 85% defines the limit of constraint in the on-street parking network. This occupancy level represents a good utilisation of car parking and provides the ability for drivers arriving to an area to find a car parking without excessive circulation. Streets where the parking utilisation was found to be 85% or greater for three or more hours of the day were considered to be of greatest significance when considering new or increased parking restrictions.

In certain areas, particularly at the eastern end of the corridor and near the TAFE campus on Crystal Street, the current supply of parking is insufficient to accommodate the unconstrained peak car parking demand from all sources in the study area. However building large new carparks is very expensive, will create amenity impacts and will attract additional vehicles and traffic to the study area which is also not a desirable outcome. The only equitable way to give both residents and visitors access to parking is to place additional parking time restrictions to help manage the limited available parking capacity in the area.

It is without doubt that local businesses in the area do generate jobs and contribute significantly to the local economy in the area. It is important that the parking strategy supports the needs of small businesses especially to ensure the dynamic and eccentric character of the area is supported and promoted.

Therefore the overall philosophy of the parking management must maintain an appropriate balance between the car parking needs of the residents and the businesses in the area. The optimum outcome is to ensure that all the available parking is well utilised, while still retaining some free space to facilitate parking turnover i.e. by achieving parking occupancy rates in the order of 85%.

7.3 Resident Parking Scheme

Modifications to the existing resident parking scheme (RPS) is proposed for the study area. A resident parking scheme has the following advantages:

- It allows a more consistent approach to address parking issues
- It enables resident parking scheme permits to be used in the whole area so if the street where the resident lives is fully parked for any reason, there are opportunities to park in other nearby parallel streets
- It simplifies parking enforcement

The extent of the RPS needs to be large enough to provide residents with a good opportunity to find a convenient parking space whilst not too big to encourage residents in one area to drive between land uses. The size of the area is generally dependant on the competing land uses within each zone. Areas should also be logical and ideally border on main streets.

One of the disadvantages with an area wide parking scheme occurs for residential properties that are located on border of the area. A limited amount of parking permit overlap should be allowed within the border streets in future enforcement of the RPS restrictions.

In order for Marrickville Council to implement a residential parking permit scheme, a number of criteria are required to be met by RMS. The complete set of criteria is specified in RMS guidelines, RMS Permit Parking November 2012. The requirements must be satisfied before the issue of residential parking permits:

- *The resident has no on-site parking or limited on-site parking and also has no unrestricted on-street parking available near their residence.*
- *The place of residence could not be reasonably modified to provide onsite parking space(s).*
- *The vehicle is not a truck, bus, tram, trailer (boats and caravans) or tractor.*
- *The number of permits to be issued for an area should not exceed the number of available on-street parking spaces in the area.*

Based on the community consultation and traffic engineering analysis which was undertaken for this study, Arup developed a number of draft recommendations relating to the existing RPS in the Parramatta Road / Camperdown study area. These recommendations are outlined in the sections below.

7.4 M1 Parking Area Draft Recommendations

7.4.1 Federation Road and Salisbury Road area

The existing resident parking restrictions on streets in the area bounded by Salisbury Road, Federation Road, Northwood Street and Australia Street was considered for modification in this parking strategy. Most streets within this area have two hour parking restrictions between 8:30am-6pm (Monday to Friday) with permit holders of area M1 excepted on both sides of the street. Resident parking permits around this area proves to be effective during the weekdays with surveys indicating average occupancy rates in these areas ranging from 50% to 70%.

However on weekends, survey data and community comments show that parking demand is high, where parking restrictions are no longer in effect. These spaces are predominantly used by visitors to the Newtown-Enmore retail / entertainment area on weekends – particularly during the evening when restaurant activity is higher and events are held at the Enmore theatre. Residents have expressed concerns of parking spaces outside their residence being occupied at these times. Parking surveys indicate many of the streets within this area were at 85% occupancy (or above) on the weekend.

The issue is exacerbated in this area by the proximity to the adjacent M3 (Newtown-Enmore) parking area, where controls are in place which limit parking to two hours (residents excepted) between 8am and 10pm Monday to Sunday. These same parking restrictions are in place on streets to the east in the City of Sydney Council area.

Recommendation 1: Australia Street eastern side

It is recommended that the time restrictions along the eastern side of Australia Street (between Federation Road and Salisbury Street) be modified 2P 8:00am-10pm (Monday to Sunday, M1 permit holders excepted). This provides consistency with the time restrictions in the adjacent M3 parking area and provides for resident parking on weekends as well as weekdays.

Recommendation 2: Hopetoun Street, Roberts Street and Northwood Street

These streets have two hour parking restrictions on weekdays (M1 permit holder excepted), on both sides of the street. It is recommended that the time restrictions along the western side of these streets (between Salisbury Road and Federation Road) be modified to 2P 8:00am-10pm (Monday to Sunday, M1 permit holders excepted). This provides consistency with the time restrictions in the adjacent M3 parking area and the restrictions in place to the east on City of Sydney Council controlled streets, and provides for resident parking on weekends as well as weekdays.

Implementing this modification on only one side of the street would ensure that parking would still be provided for visitors to the area on weekends wishing to stay longer than two hours. This recommendation would provide an appropriate balance for accommodating visitors to the nearby the Newtown-Enmore retail / entertainment area while also ensuring spaces are available for residents.

7.4.2 Federation Road

Federation Road is located north of the Camperdown Memorial Rest Park, with M1 permit parking restrictions on the north side between Hopetoun Lane and Northwood Lane. Survey data indicated that average occupancy in permit areas were generally low, showing existing permit parking schemes in the area are effective.

81 unrestricted parking spaces can be found on the southern side of the road. Survey data and community comments show that parking demand for these spaces is high – consistently above 85% throughout the day and on weekends. These spaces are predominantly used by commuters, visitors and businesses.

Community feedback received for this study noted a number of vehicles utilise the southern side of Federation Road for long stay parking – including trailers and campervans. This restricts available opportunities for visitors to the precinct including users of the adjacent park.

Recommendation 3: Federation Road

Converting the existing unrestricted parking spaces on the southern side of Federation Road (between Australia Street and Church Street) to 10 hour time restricted parking is proposed in this strategy. This initiative would discourage long term parking but still ensure parking for nearby businesses and visitors is maintained. This initiative would provide more opportunities for all users to utilise these parking spaces.

7.4.3 Australia Street

The western side of Australia Street is not currently subject to any parking restrictions. Survey data indicates parking demand can be high on both weekdays and weekends area. Should the 10P restriction be implemented along Federation Road south (Recommendation 3), Australia Street may experience a spill over effect for vehicles parking for extended periods of time.

Recommendation 4: Australia Street western side

Monitor the occupancy and turnover of the western side of Australia Street (between Lennox Street and Federation Road) following the implementing 10P parking along the south side of Federation Road as recommended in this strategy. Implementation of a similar 10P restriction along Australia Street could be considered should long stay parking become an issue.

7.4.4 Available Parking Permits – M1

Within the existing M1 (Camperdown) area, where resident parking is provided on both sides of the street in most areas, the number of parking spaces exceeds the number of parking permits available for residents. Therefore no change is proposed to the current arrangement whereby residents are entitled to apply for up to two parking permits.



- 10P restrictions Mon- Sun
- 2P 8am - 10pm Mon-Sun
(M1 permit holders excepted)
- Monitor and consider implementing
10P restrictions

ARUP

7.5 M5 Parking Area Draft Recommendations

7.5.1 Time Restrictions for Resident Parking

Currently a mix of time restrictions are provided across the precinct. Examples of existing parking restrictions within the current M5 (Petersham) area include:

- 1P 8:30am-6pm (Mon-Fri) and 8.30am-12.30pm (Sat) residents excepted
- 1P 8:30am-8pm (Mon-Fri) residents excepted
- 2P 8:30am-8pm (Mon-Fri) residents excepted
- 1P 8:30am-9pm (Mon-Fri) residents excepted
- 2P 8:30am-9pm (Mon-Fri) residents excepted
- 2P 8:30am-10pm (Mon-Fri) residents excepted

Applying consistency with respect to the time periods where resident parking restrictions are in force is a key element of this parking strategy. The current inconsistency creates confusion amongst drivers and limits enforcement opportunities.

Recommendation 5: Standardisation of parking restrictions within the M5 area

To create consistency throughout the M5 area and reduce confusion it is recommended that the existing parking restrictions be modified to the following:

2P - 8:00am-10pm (Mon-Fri) M5 permit holders excepted

These changes would apply to all streets with parking restrictions within the M5 area with the exception of Queen Street, where the existing 1 hour restrictions on weekdays and Saturdays would remain in place.

7.5.2 Margaret Street

The south side of Margaret Street, west of Charles Street has seven unrestricted parking spaces and 15 parking spaces subject to one hour parking restrictions between 8:30am-8pm (Mon-Fri), with M5 permit holders excepted.

Margaret Street, east of Charles Street has 33 unrestricted spaces on the north side and 25 unrestricted spaces on the south side

Parking survey data indicated that average occupancy on Margaret Street in areas subject to time restricted parking were generally low, demonstrating availability of spaces for residents of the precinct. The south side of Margaret Street, west of Charles Street was found to be relatively underutilised, with an average occupancy rate of 36% on weekdays.

However the 58 unrestricted spaces along Margaret Street, east of Charles Street were found to have high demands during both weekday and weekends, with occupancy rates above 85% for more than three hours observed. Residents in the area have also expressed interests in having a resident parking scheme implemented.

Recommendation 6: Margaret Street north side

Conversion of the existing 33 unrestricted spaces on the northern side of Margaret Street (between Charles Street and Margaret Lane) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended.

Implementation of a resident parking scheme along the north side of Margaret Street would ensure that residents can obtain a parking space on weekdays where survey data indicates demand for parking is high along this street, and responds to community feedback received during this study. Retaining unrestricted parking on the southern side of the street will continue to accommodate visitors to the area.

Recommendation 7: Margaret Street south side

Conversion of the existing 15 time restricted parking spaces on the southern side of Margaret Street (between Charles Street and Crystal Street) to unrestricted parking is recommended. Given that this section of parking is underutilised, conversion of these spaces to unrestricted parking zones would provide a more efficient utilisation of the parking spaces. This would accommodate visitors to the precinct – in particular those travelling to/from the retail precinct on Parramatta Road.

Existing residents would not be disadvantaged given the retention of time restrictions on the northern side of the street. Parking survey data indicates that average occupancy on the north side of Margaret Street is at 37% on weekdays, and could accommodate additional residents to park in this area. Further, Recommendation 6 provides for additional resident parking in the precinct.

7.5.3 Corunna Road

Corruna Road, west of Charles Street, has time restricted parking on both sides of the road (M5 permit holders excepted). Survey data indicates parking demand is generally low in these areas, with an average occupancy of 55% on weekdays. The section of Corruna Road east of Charles Street has unrestricted parking on both sides of the street, with roughly nine resident permit parking spaces on the south side of the road. Survey data indicates parking demand on the east section of Corruna Road is low, averaging 35% on weekdays.

Recommendation 8: Corunna Road, east of Charles Street

Conversion of the existing 35 unrestricted spaces on the northern side of Corunna Road (between Charles Street and Cannon Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended.

Implementation of a resident parking scheme along the north side of Corunna Road would ensure that residents can obtain a parking space on weekdays where survey data indicates demand for parking is high along this street, and responds to community feedback received during this study. Retaining unrestricted parking on the southern side of the street will continue to accommodate visitors to the area.

Recommendation 9: Corunna Road, west of Charles Street

Conversion of the existing 27 time restricted parking spaces on the southern side of Corunna Road (between Charles Street and Crystal Street) to unrestricted parking is recommended. Given that this section of parking is underutilised, conversion of these spaces to unrestricted parking zones would provide a more efficient utilisation of the parking spaces. This would accommodate visitors to the precinct – in particular those travelling to/from the retail precinct on Parramatta Road.

Existing residents would not be disadvantaged given the retention of time restrictions on the northern side of the street. Parking survey data indicates that average occupancy on the north side of Corunna Road is at 54% on weekdays, and could accommodate additional residents to park in this area. Further, Recommendation 8 provides for additional resident parking in the precinct.

7.5.4 Westbourne Street

Westbourne Street, between Charles Street and Crystal Street, is located some 200 metres south of Petersham TAFE. The street has 42 unrestricted parking spaces on both sides of the street (84 total) and is a convenient area for TAFE students and staff to park. Westbourne Street may also be used by commuters, being just 350 metres north of Petersham railway station. Survey data shows that parking demand is high during the weekdays, with average occupancy levels after midday being 92% for both sides of the street.

Recommendation 10: Westbourne Street

Conversion of the 42 spaces on the northern side of Westbourne Street (between Charles Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended. Implementation of a resident

parking scheme along this street responds to any spillover effects generated by the expansion of the M5 parking area to the north as recommended in this study. It would ensure that residents can obtain a parking space on weekdays where survey data indicates demand for parking is high along this street, and responds to community feedback received during this study. Retaining unrestricted parking on the southern side of the street will continue to accommodate visitors to the area including the nearby TAFE and Petersham railway station.

7.5.5 Fort Street

Fort Street, between Crystal Street and Railway Street, is located opposite Petersham TAFE. Unrestricted parking is provided on both the northern (16 spaces) and southern (22 spaces) sides of the street). Survey data and community comments shows that parking demand is high during both weekdays and weekends, with average occupancy levels of 85% which is the theoretical capacity for on-street parking. The unrestricted spaces on both sides of the street is typically used by residents, TAFE students and staff as well as visitors to businesses along Parramatta Road. In the evenings parking demand is high given Fort Street's proximity to the restaurant precinct along Norton Street north of Parramatta Road.

Recommendation 11: Fort Street

Conversion of the 16 unrestricted spaces on the northern side of Fort Street (between Railway Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended. Implementation of a resident parking scheme along this street responds to any spillover effects generated by the expansion of the M5 parking area as recommended in this study. It would ensure that residents can obtain a parking space on weekdays where survey data indicates demand for parking is high along this street, and responds to community feedback received during this study. Retaining unrestricted parking on the southern side of the street will continue to accommodate visitors to the area including the nearby TAFE and Norton Street restaurant precinct. Further, the two hour parking limit would discourage commuters and long term stays, but still provide adequate time for TAFE students to attend classes.

7.5.6 Railway Street and Croydon Street

Railway Street (between Elswick Street and Croydon Street) and Croydon Street (between Railway Street and Crystal Street) are not currently subject to any parking restrictions. Railway Street has an average parking occupancy approaching 85% on weekdays, while Croydon Street has an average parking occupancy of approximately 70% on weekdays. With the expansion of the M5 parking area as proposed in this strategy, there is the potential for spillover of parking to occur on these streets.

Recommendation 12: Railway Street and Croydon Street

Conversion of the 24 unrestricted spaces on the eastern side of Railway Street (between Elswick Street and Croydon Street) and the 20 spaces on the northern side of Croydon Street (between Railway Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended. Implementation of a resident parking scheme along this street responds to any spillover effects generated by the expansion of the M5 parking area as recommended in this study.

The proposals will ensure an equitable distribution of spaces between the residents, visitors and employees in the area. Residents should normally be able to obtain a parking space within reasonable walking distance of their home. On the other hand, many visitors and local business employees in the area will still continue to be able to park on the unrestricted side of the streets in the area

7.5.7 Available Parking Permits – M5

This draft strategy proposes a number of modifications to the existing RPS in the M5 (Petersham) area, including:

- Extension of resident parking controls to adjacent streets
- Amendments to the existing time restrictions to provide better consistency across the precinct; and
- Changes in parking controls where resident parking is currently in force on both sides of the street, providing additional unrestricted parking in these areas.

Recommendation 13: Number of parking permits within M5 area

While parking is unrestricted on the opposite side of the street it is expected that additional parking will occur via visitors to the area. Therefore it is recommended a maximum of one residential permit be issued per household for those entitled to parking permits within the expanded M5 area. This measure will encourage residents in the area to either develop their own off-street parking spaces, where property dimensions permit, or limit owning the number of vehicles to one vehicle per household.

Visitor parking permits may be obtained as per the existing arrangements for resident parking areas within Marrickville Council.



- 2P 8am-10pm Mon-Fri
(M5 permit holders excepted)
- Conversion of existing time-restricted
parking to unrestricted parking

ARUP

7.6 Short Term Parking

As previously noted, it is important that the parking strategy supports the needs of small businesses especially to ensure the dynamic and eccentric character of the area is supported and promoted. The policy to generally provide resident parking on one side of the road, with unrestricted parking on the other side, aligns with this objective. In addition to this, an area of parking along Bridge Road has been identified as suitable for providing short term parking to increased turnover of parking adjacent to businesses.

The parking spaces Bridge Road (between Corunna Road and Salisbury Road) are not currently subject to any parking restrictions during daytime hours. As a result some of these spaces are occupied by all day parkers (e.g. commuters) which limits opportunities for visitors to the local businesses to the area requiring only short stay parking. Several businesses along Bridge Road do not have access to short term parking for customers.

Recommendation 14: Bridge Road

It is recommended that six existing parking spaces on Bridge Road be converted to short stay parking to provide greater parking opportunities for customers of nearby businesses. The recommended spaces to be converted are as follows:

- Two spaces along the eastern side of Bridge Road (between Salisbury Road and the driveway entrance to the site at 43 – 53 Bridge Road); and
- Four spaces along the western side of Bridge Road (between Macaulay Road and Albany Lane)

It is recommended these spaces be signposted as 1P 8:30am-6pm (Mon-Fri) & 8:30am-12:30pm (Sat). The current 'no stopping' restrictions between 9pm and 5am would remain in force for these spaces.

7.7 Future Changes to Land Uses in the Area

Potential future changes in land use will impact on the demand for on-street parking within the study area. The current situation parking surveys have provided a snapshot of parking demand at the current time. It is nevertheless also important to consider how this might change in the future when determining strategic transport planning and car parking strategy objectives for the area. The future developments which are most likely to generate significant additional parking demand in the study area are:

- Restaurants, clubs and hotels
- High density residential flat buildings

The Marrickville Local Environmental Plan (LEP) 2011 (in section 3.2 of this report) illustrates the current Marrickville Council off-street car parking requirements for new developments, which are able to be reduced / waived in an areas such as Camperdown with good access to services and public transport. However, a major challenge in the future is how to tackle the likely increased demand for on street car parking in the area from additional residents and visitors in new residential and commercial developments if insufficient on-site parking is provided.

It is understood that development applications for a number of high density residential flat developments are currently being considered by Marrickville Council. In the Parramatta Road / Camperdown precinct, the potential for new high density residential development is significant given UrbanGrowth NSW's plans for future urban densification associated with their Parramatta Road urban transformation program as previously described in Section 3.4 of this report.

Recommendation 15: Availability of parking permits for residents of multi-unit developments

As the capacity of kerbside parking spaces is relatively fixed, to prevent new commercial and residential developments from applying further pressure on residential parking in the precinct, the current Marrickville Council policy of imposing conditions of development consent limiting new multi unit development resident's access to RPS permits should be maintained.

This policy is similar to the adjacent City of Sydney Council policy whereby.

“In the City East and City South precincts, residents of multi-unit developments approved after 8 May 1996 are not eligible to participate in the resident permit parking schemes.

In the CBD precinct, residents of all developments approved after 1 May 2000 are not eligible to participate in the resident permit parking schemes.

7.8 Parking Enforcement

It is essential that the recommended modifications to the current parking restrictions in the area must be accompanied by an increased level of parking enforcement. Motorists must have a perception that they are likely to be fined if they overstay parking time restrictions.

Council's community traffic officers currently undertake patrols of the area as labour resources allow and demand requires. An increase in patrols in the evening hours may result in a higher compliance with parking restrictions. Any increase in evening patrols would require an increase in labour, with the cost being offset by revenue from penalty infringements.

A relatively small increase in the current level of parking enforcement may be sufficient to eliminate most overstaying of parking time limits and therefore even higher levels of enforcement, such as regular patrols every day, should be unnecessary. However, it should be noted that any increase in parking enforcement in the area will require a Council commitment to meet the following additional costs:

- Parking officers' salaries;
- Parking officers' uniforms;
- Equipment purchase (vehicles, hand held device, digital cameras etc.); and
- Legal cost (while required).

Recommendation 16: Enforcement

Parking enforcement can effectively be improved by increasing patrols by Council parking officers/ rangers, particularly targeting main streets/ car parks where overstaying is highest. This measure would increase parking availability by increasing turnover.

7.9 Reducing Parking Demand

It is apparent from this study that many residents in the study area are currently experiencing significant parking problems. It is also likely that residents and visitors are currently circulating local streets to find a parking space, creating unnecessary traffic congestion and associated pollution at times of peak parking demand.

There are various ways to address the parking issues in the study area. Construction of a major new parking station is not considered an economically or environmentally feasible option, and encouraging of the use of sustainable transport (i.e. walking, cycling, public transport and taxi) is the best option to reduce the future parking demand.

The Marrickville integrated Transport Strategy addresses various ways to reduce the future parking demand in all areas of the municipality by increased walking, public transport initiatives, bike plans, car share etc. Council is currently implementing these strategies as part of an ongoing project.

The following matters have been identified as the major current barriers to the promoting of sustainable public transport based travel patterns in the study area:

- Inadequate train frequency at Newtown and Petersham during weekend evenings
- Current availability of unrestricted parking; and
- Low cost of parking generally in the study area.

Marrickville Council will need to work with the State Government and Public Transport operators to ensure that transport services in the study area are comprehensive, interlinked and cater for the needs of both the local community and the visitors. Marrickville Council will also need to ensure that alternatives to car use are well promoted and supported. For a future reliable, accessible and sustainable transport system, Council needs to:

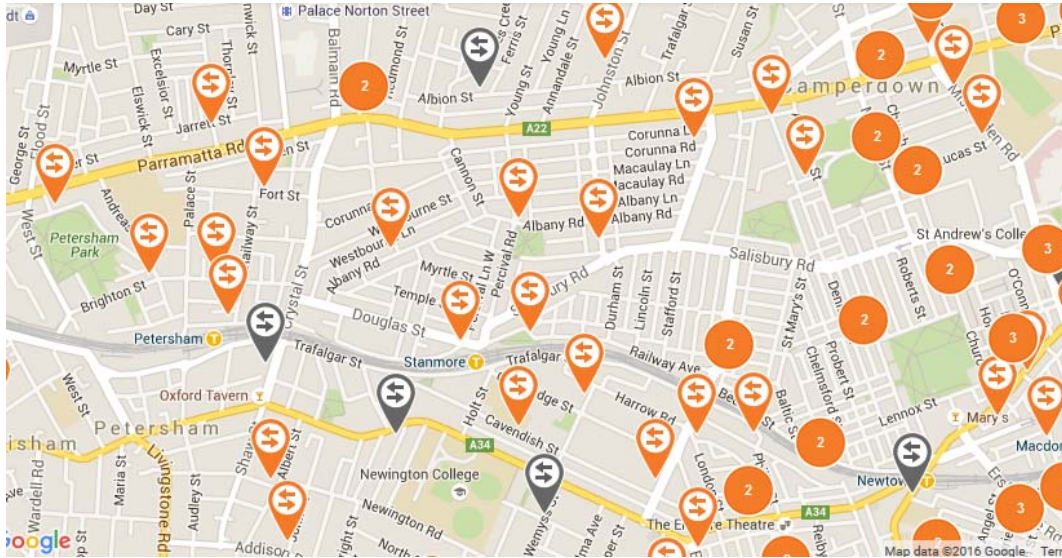
- Incorporate true environmental and social costs in the transport planning (e.g. congestion, air and noise pollution);
- Pursue improvement of the frequency, quality and diversity of sustainable transport options (e.g. negotiation with Transport for NSW);
- Ensure that public transport is attractive and cost effective compared to driving (e.g. supported by the introduction of pay parking);
- Ensure that transport management is coordinated at a regional level;
- Ensure that the pedestrians and cyclists enjoy easy and safe access throughout the study area;
- Ensure that equity of available parking spaces is achieved;
- Ensure that effective compliance of the restricted parking spaces is reached over 75% of the time; and
- Ensure that access to the precinct by taxi, particularly at night, is encouraged and facilitated by pick-up and drop-off areas and taxi information.

GoGet car share has been successfully operating in Marrickville for several years (refer to Figure 34). Car sharing is a proven means of reducing the number of car journeys generated by a development. A recent study on the effectiveness of car sharing schemes across Sydney found that every car share space replaces the need for 12 private vehicle spaces².

Marrickville Council introduced a car share policy in May 2014 to support car share activity within the LGA as part of its approach to supporting sustainable transport options.

² SGS Economics & Planning (2012), Benefit-Cost Analysis of Car Share within the City of Sydney

Figure 34: Existing GoGet Parking Spot Locations



Recommendation 17: Reducing parking demand

Continue to lobby Transport for NSW to ensure that the best possible public transport facilities are provided for users of the precinct and continue to look for opportunities to increase the provision of car share throughout the precinct.

8 Summary

Arup has conducted a detailed parking study for the Parramatta Road Corridor and Camperdown Precinct, which included stakeholder surveys, existing parking demand, supply and policies. A suite of draft recommendations have been developed which aim to provide – where possible – an improved management system for parking for the area. The draft recommendations proposed considers:

- The current transport environment and conditions in the Parramatta Road / Camperdown precinct;
- Existing parking controls in neighbouring areas – both in the Marrickville Council and City of Sydney Local Government Areas
- Feedback received during the community and stakeholder engagement process; and
- Results of the parking surveys conducted in the precinct

These recommendations are summarised in Table 8 below.

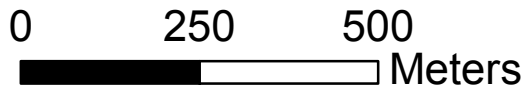
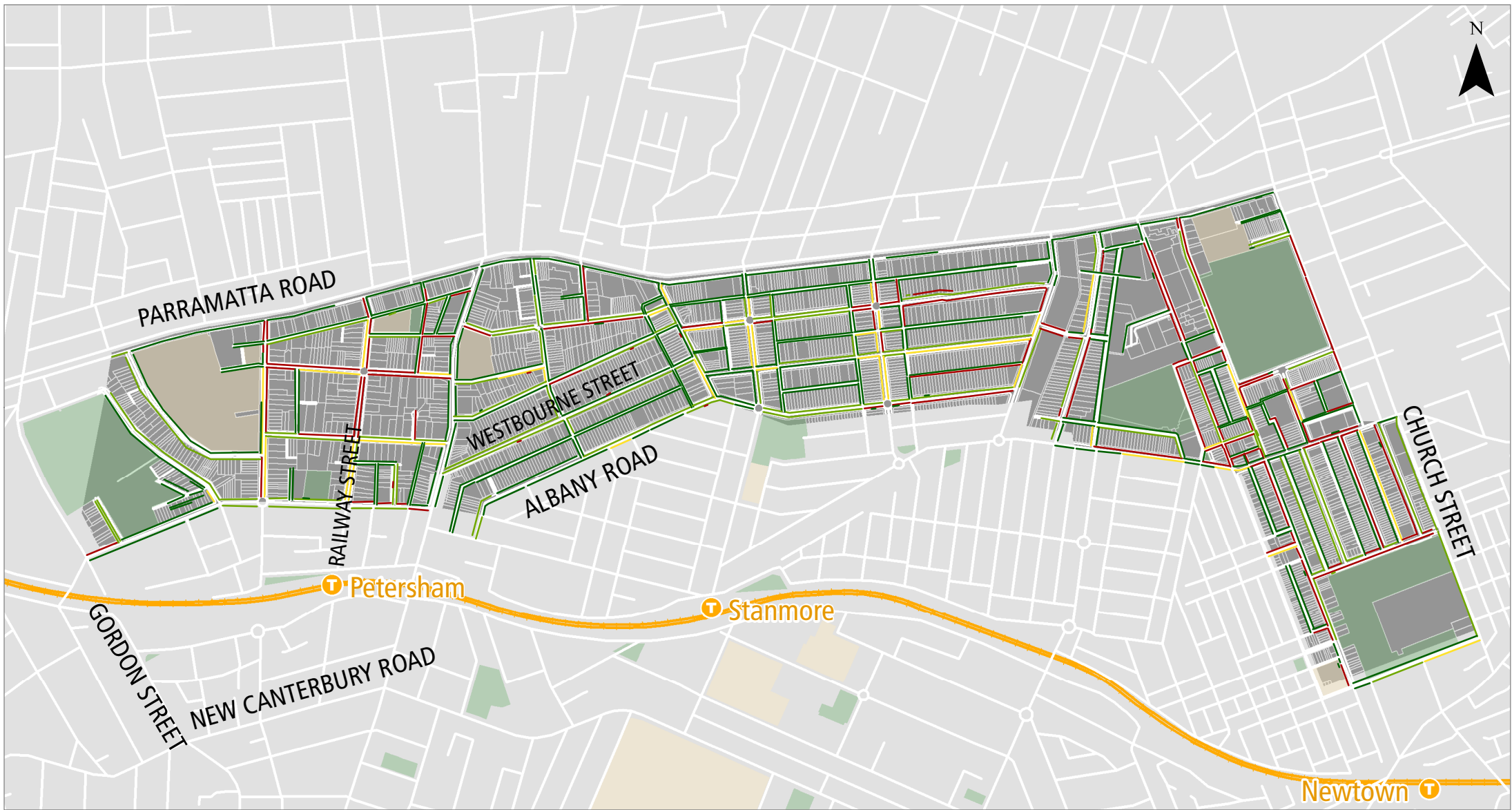
Table 8: Draft Parking Strategy Recommendations

Recommendation	Recommendation Description
Recommendation 1: Australia Street	Modify existing time restrictions on the eastern side of Australia Street (between Federation Road and Salisbury Street) to 2P 8:00am-10pm (Monday to Sunday, M1 permit holders excepted)
Recommendation 2: Hopetoun Street, Roberts Street and Northwood Street	Modify existing time restrictions on the western side of Hopetoun Street, Roberts Street and Northwood Street to 2P 8:00am-10pm (Monday to Sunday, M1 permit holders excepted)
Recommendation 3: Federation Road	Convert the existing unrestricted parking spaces on the southern side of Federation Road to 10 hour time restricted parking
Recommendation 4: Australia Street	Monitor the occupancy and turnover of the western side of Australia Street (between Lennox Street and Federation Road) following the implementing 10P parking along the south side of Federation Road
Recommendation 5: Standardisation of parking restrictions within the M5 area	Standardisation of time limits within the M5 parking area, to 2P 8am-10pm (Mon-Fri) M5 permit holders excepted
Recommendation 6: Margaret Street north side	Convert the existing 33 unrestricted spaces on the northern side of Margaret Street (between Charles Street and Margaret Lane) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 7: Margaret Street south side	Convert the existing 15 time restricted parking spaces on the southern side of Margaret Street (between Charles Street and Crystal Street) to unrestricted parking

Recommendation	Recommendation Description
Recommendation 8: Corunna Road, east of Charles Street	Convert the existing 35 unrestricted spaces on the northern side of Corunna Road (between Charles Street and Cannon Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 9: Corunna Road, west of Charles Street	Convert the existing 27 time restricted parking spaces on the southern side of Corunna Road (between Charles Street and Crystal Street) to unrestricted parking
Recommendation 10: Westbourne Street	Convert the 42 spaces on the northern side of Westbourne Street (between Charles Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 11: Fort Street	Convert the 16 unrestricted spaces on the northern side of Fort Street (between Railway Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 12: Railway Street and Croydon Street	Convert the 24 unrestricted spaces on the eastern side of Railway Street (between Elswick Street and Croydon Street) and the 20 spaces on the northern side of Croydon Street (between Railway Street and Crystal Street) to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 13: Number of parking permits within M5 area	A maximum of one residential permit be issued per household for those entitled to parking permits within the expanded M5 area.
Recommendation 14: Bridge Road	Six existing parking spaces on Bridge Road be converted to short stay (one hour) parking to provide greater parking opportunities for customers of nearby businesses. The recommended spaces to be converted are as follows: <ul style="list-style-type: none"> • Two spaces along the eastern side of Bridge Road (between Salisbury Road and the driveway entrance to the site at 43 – 53 Bridge Road); and • Four spaces along the western side of Bridge Road (between Macaulay Road and Albany Lane)
Recommendation 15: Availability of parking permits for residents of multi-unit developments	Maintain the current Marrickville Council policy of imposing conditions of development consent limiting new multi unit development resident's access to RPS permits
Recommendation 16: Enforcement	Increase patrols by Council parking officers/ rangers, particularly targeting main streets/ car parks where overstaying is highest.
Recommendation 17: Reducing parking demand	Continue to lobby Transport for NSW to ensure that the best possible public transport facilities are provided for users of the precinct and continue to look for opportunities to increase the provision of car share throughout the precinct.

Appendix A

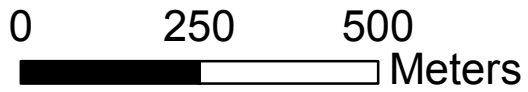
Parking Survey Results



Tuesday 8am

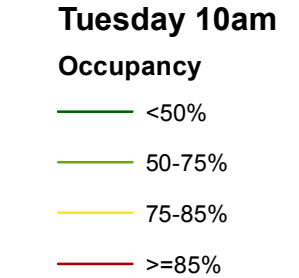
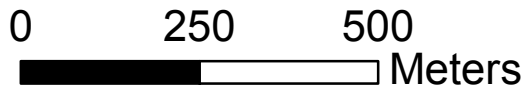
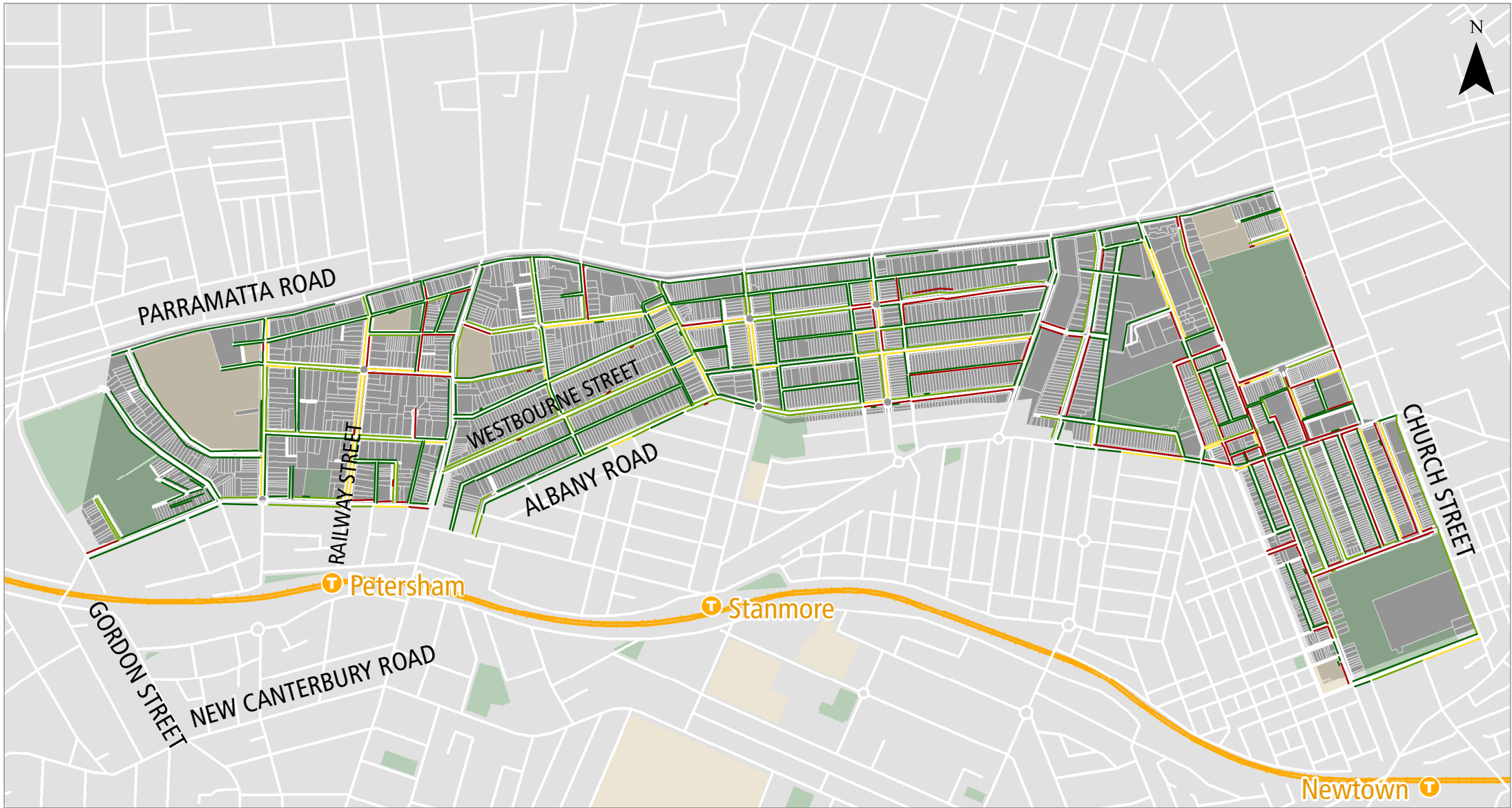
Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%

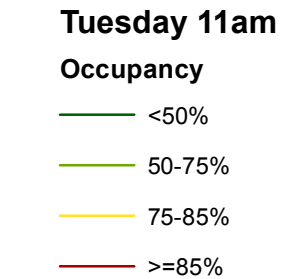
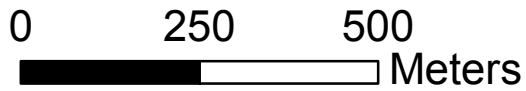
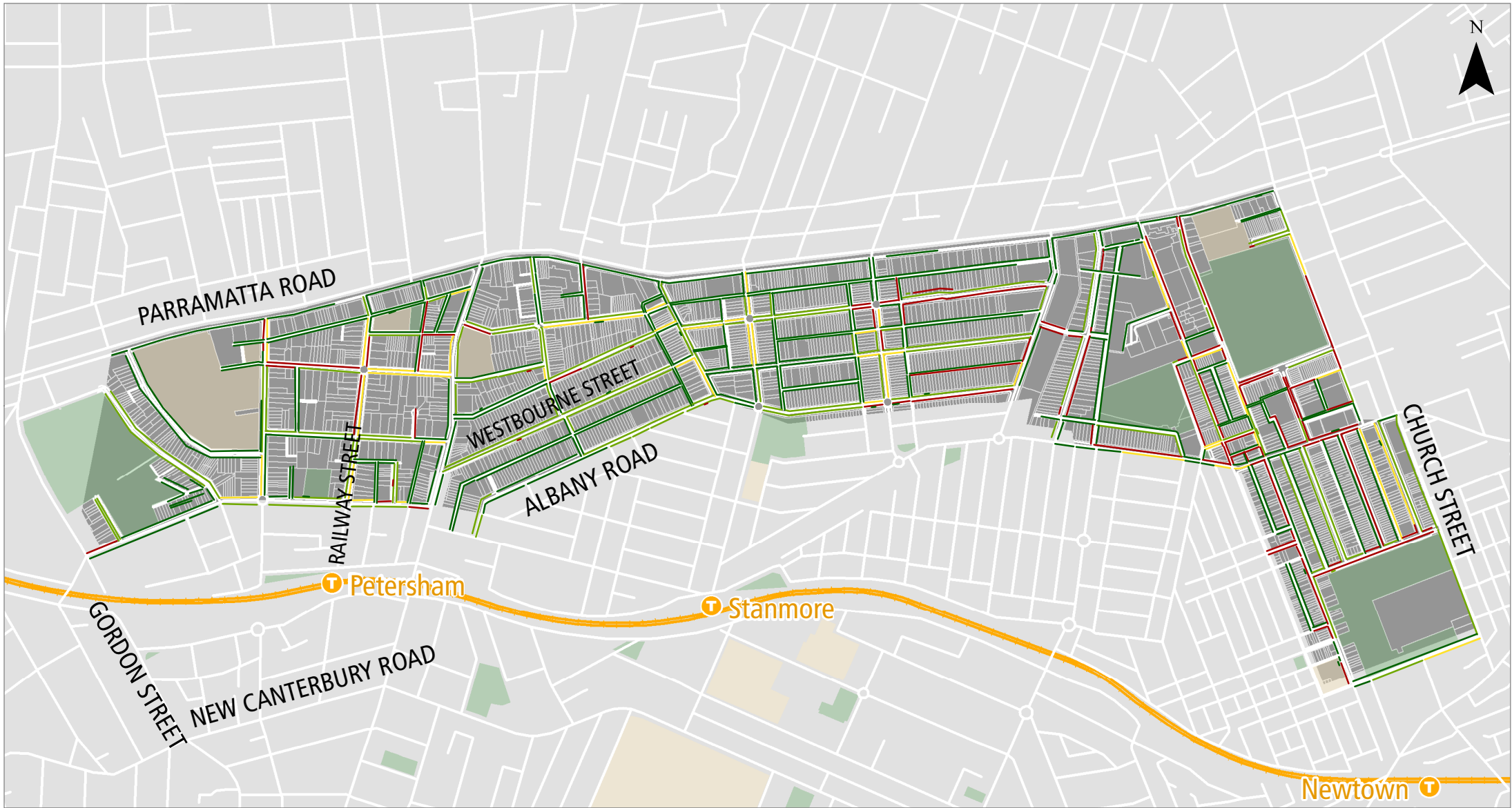


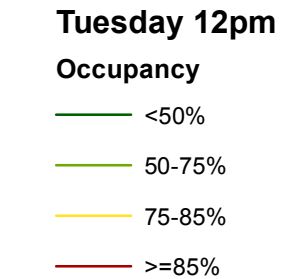
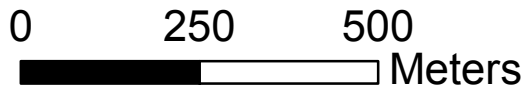
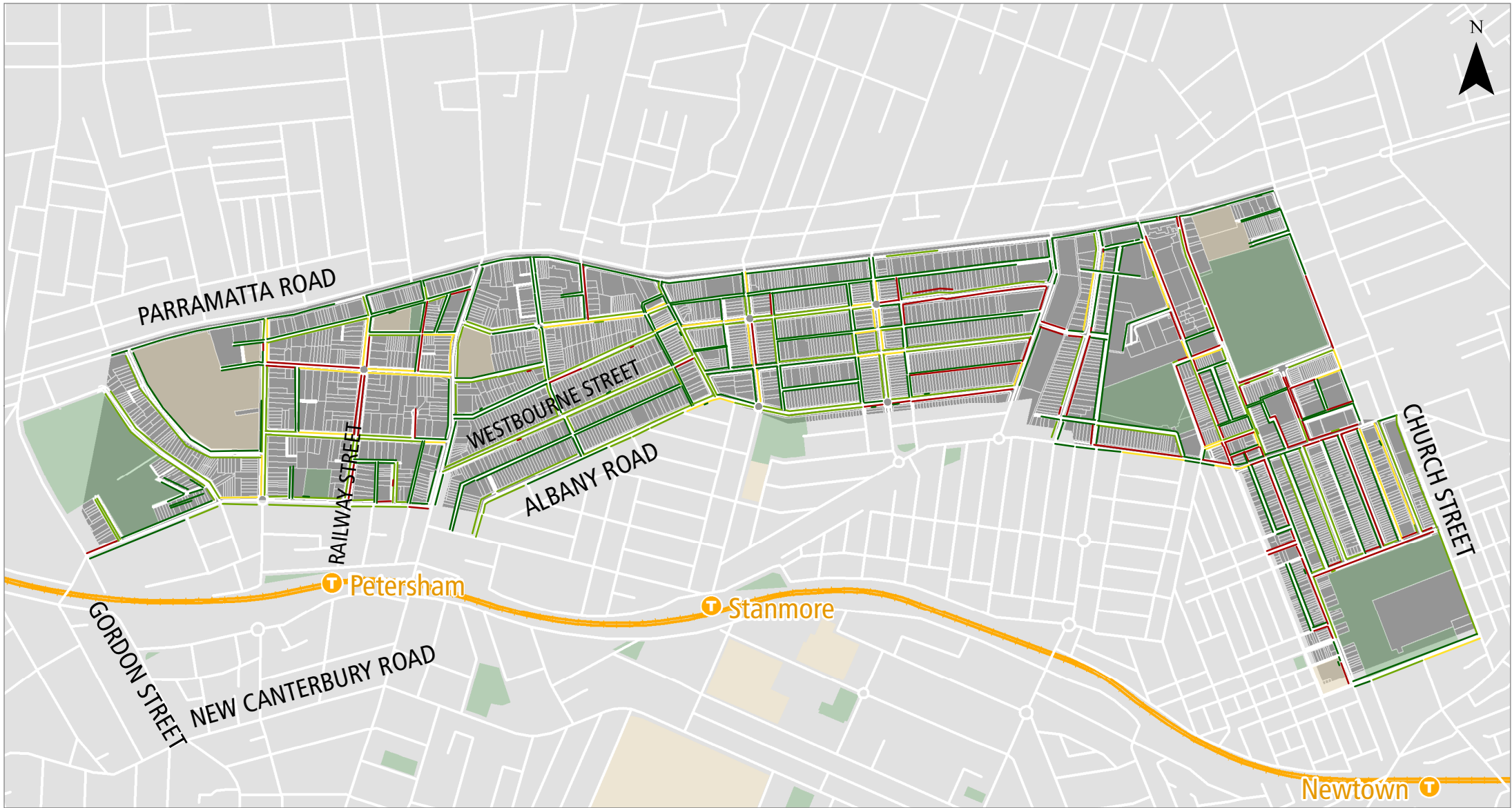
**Tuesday 9am
Occupancy**

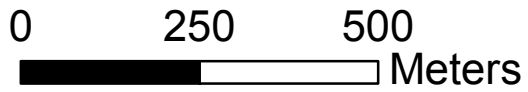
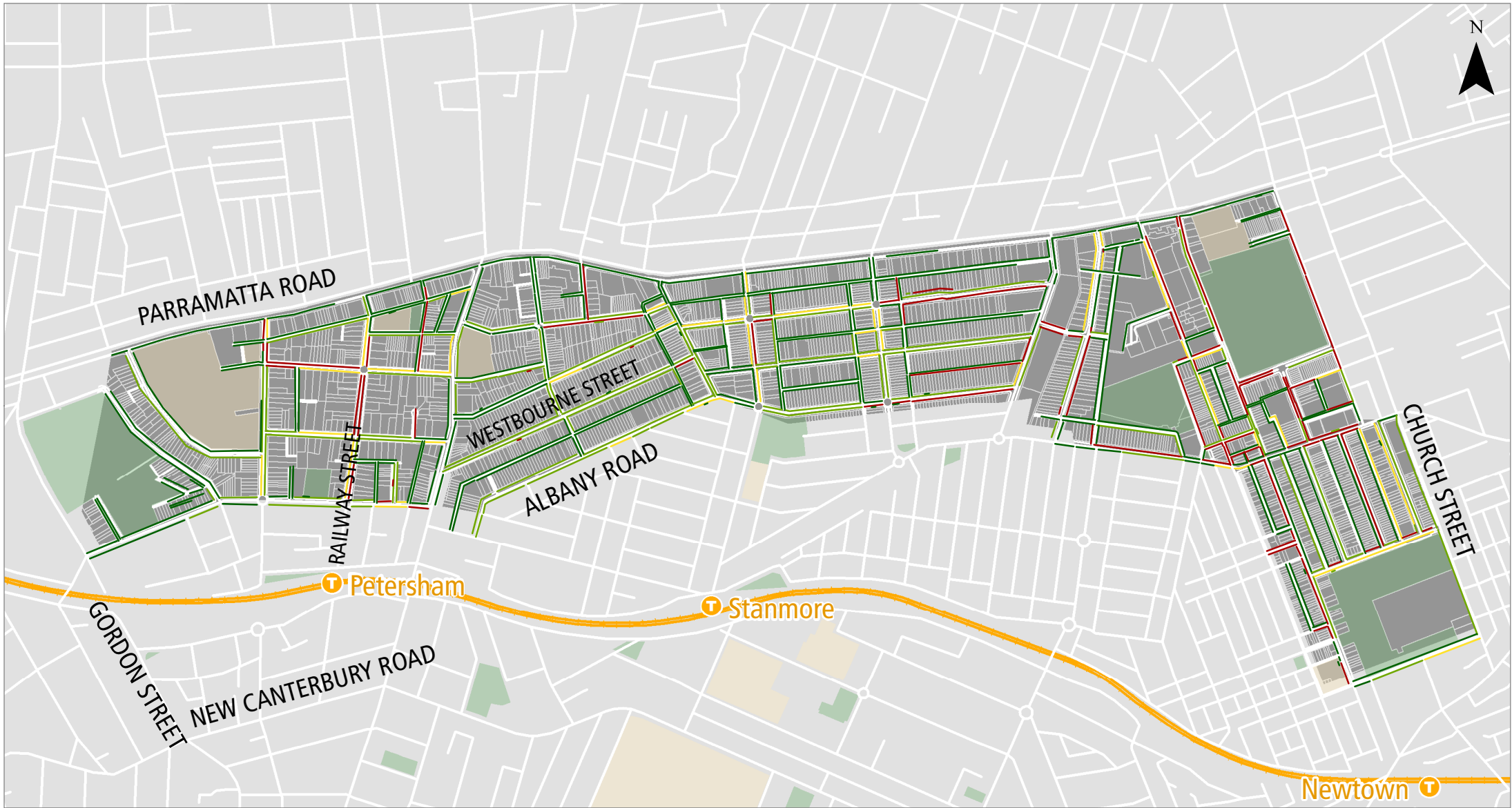
- <50%
- 50-75%
- 75-85%
- >=85%



ARUP



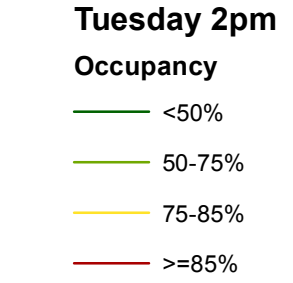
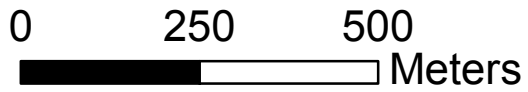
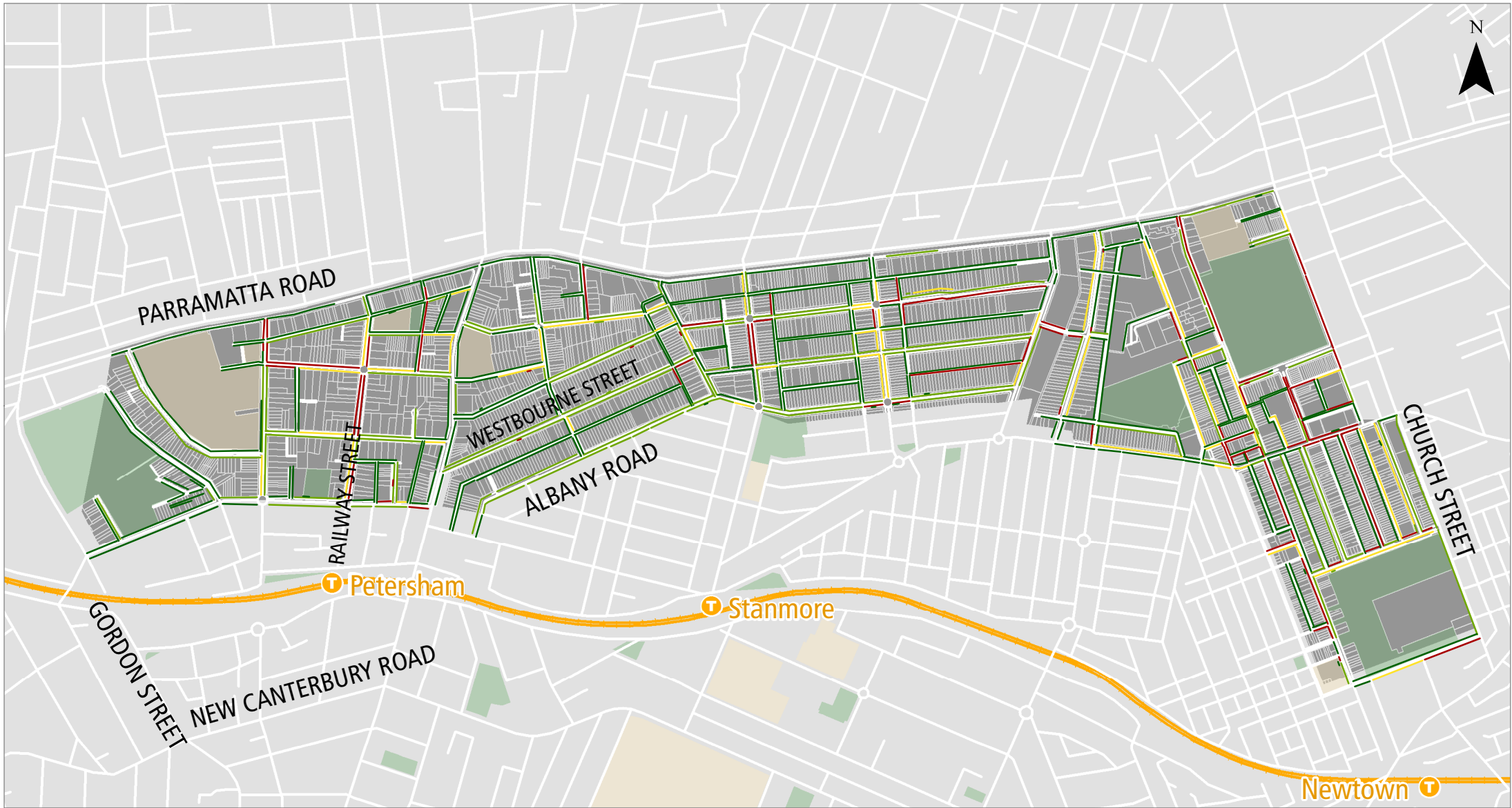




Tuesday 1pm

Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%



ARUP

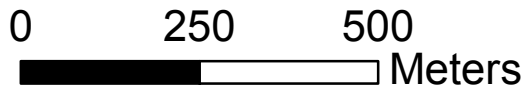
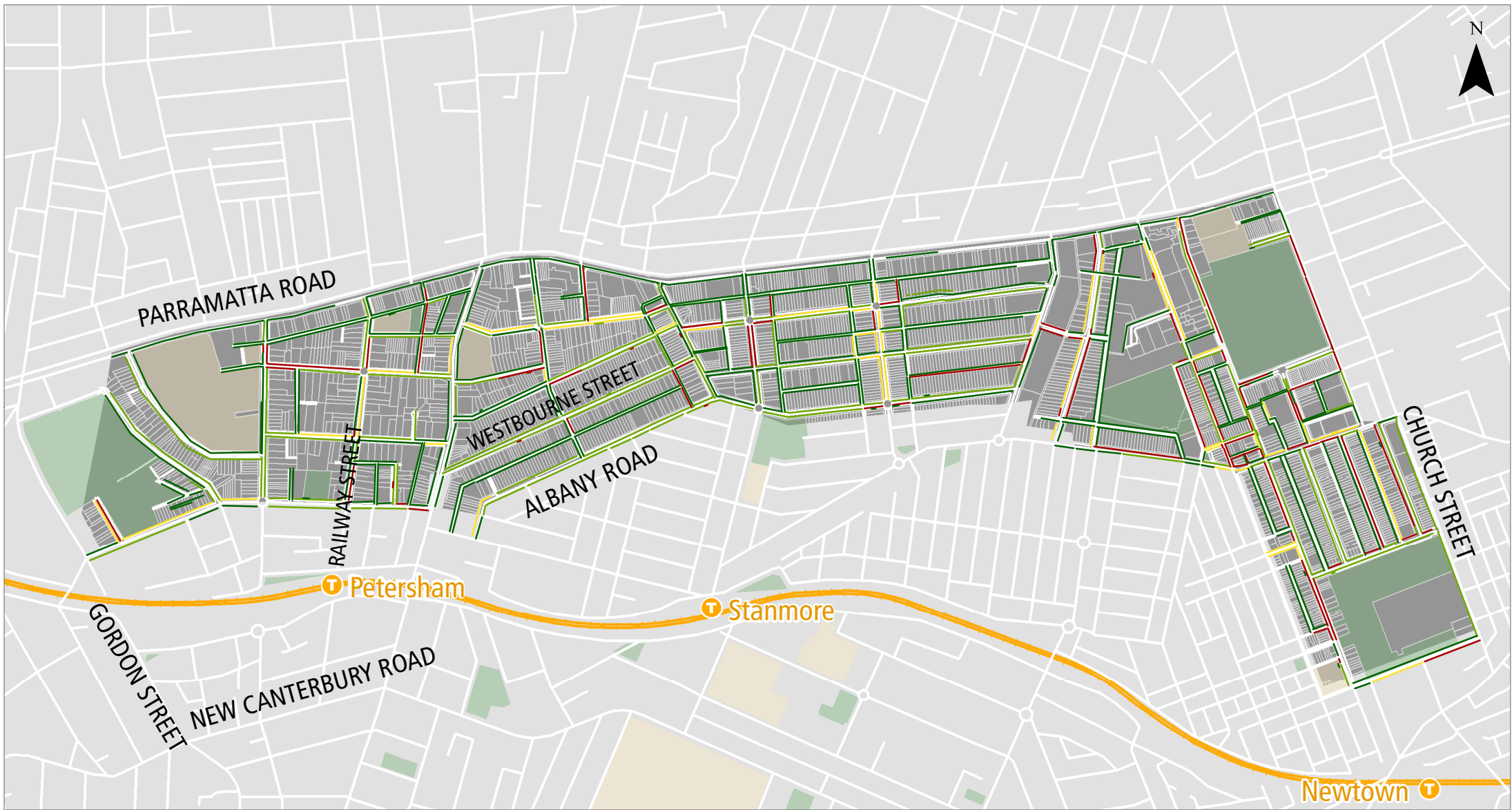


0 250 500
Meters

Tuesday 3pm

Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%

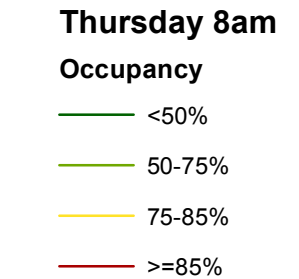
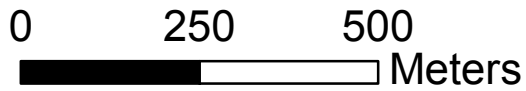
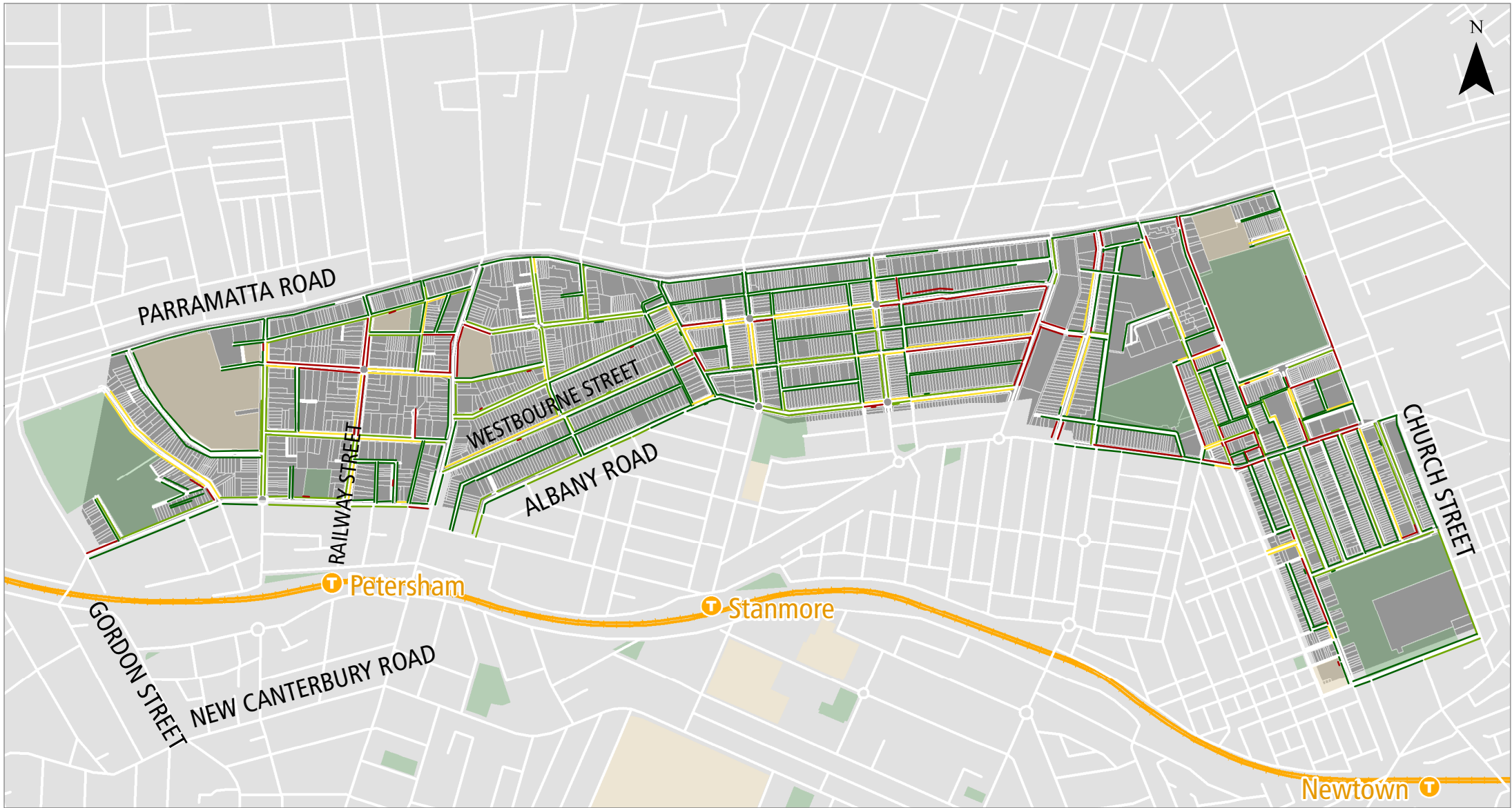


Tuesday 4pm

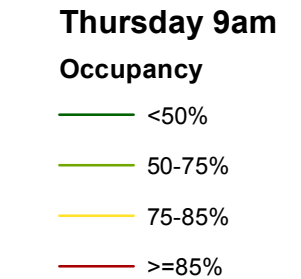
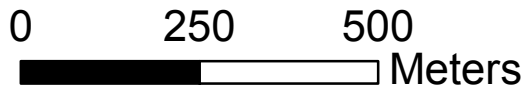
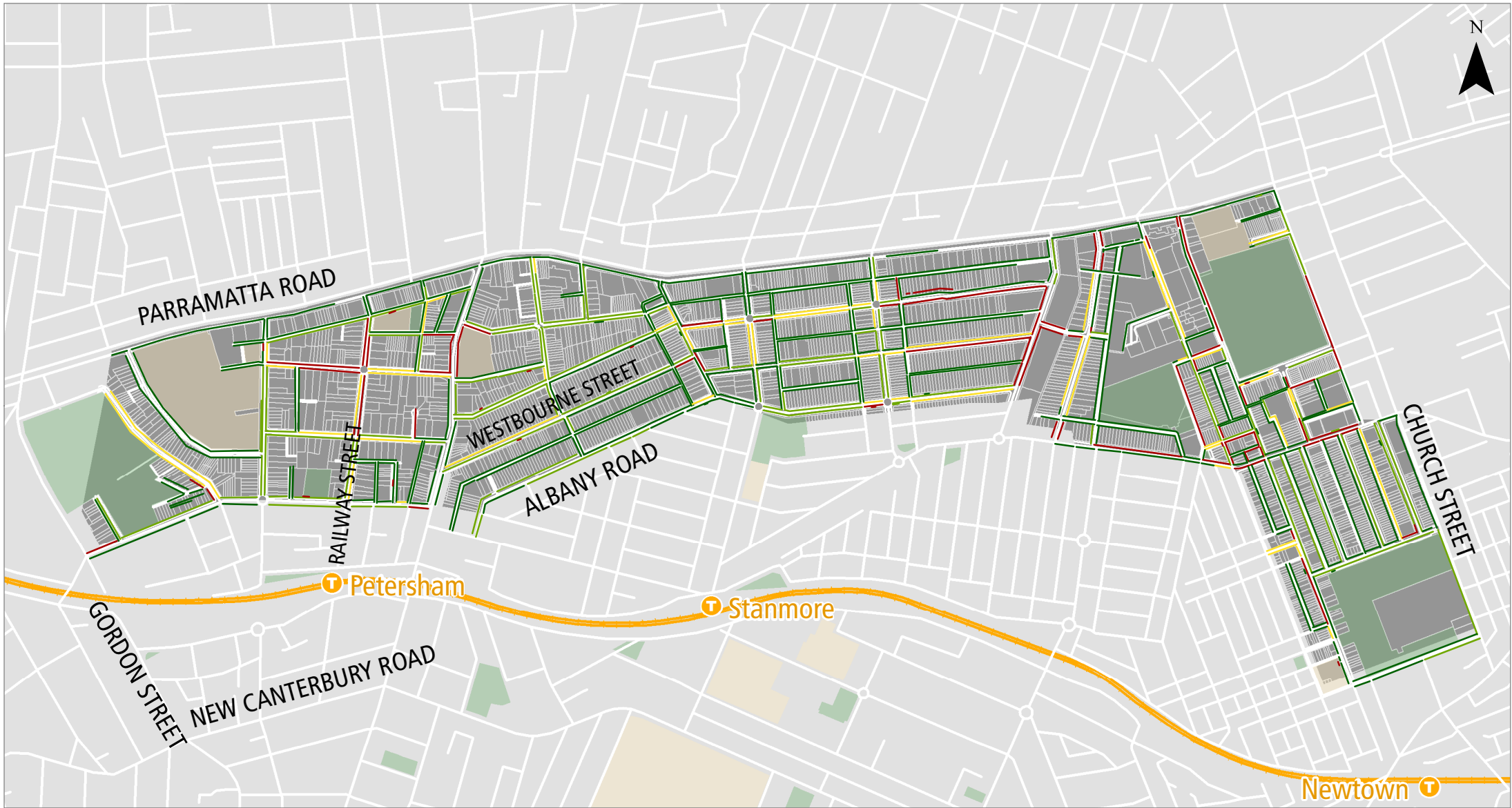
Occupancy

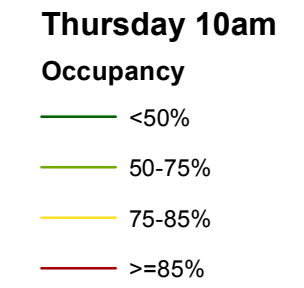
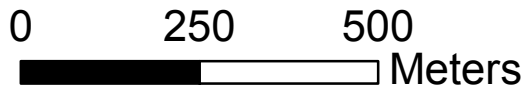
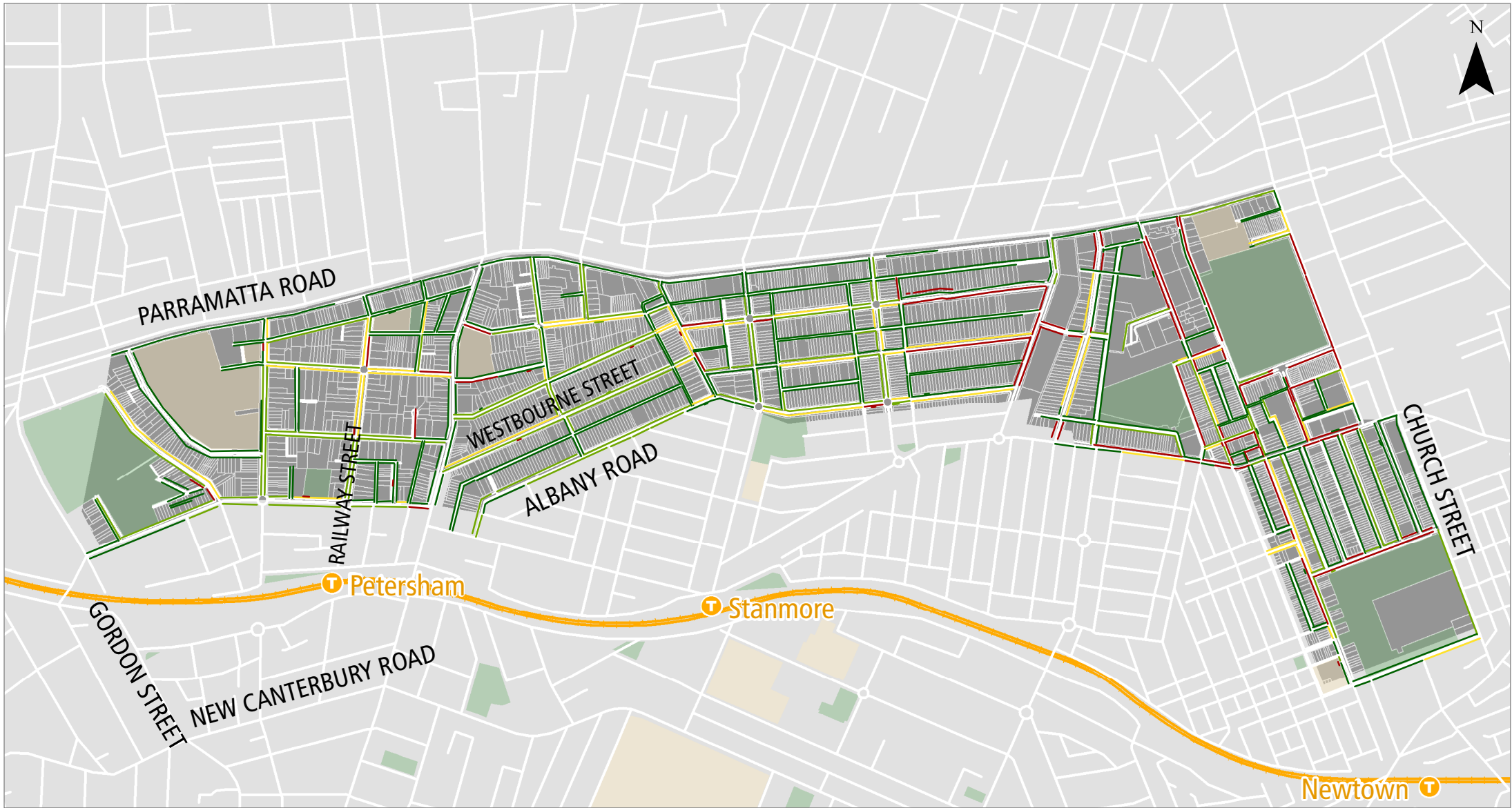
- <50%
- 50-75%
- 75-85%
- >=85%

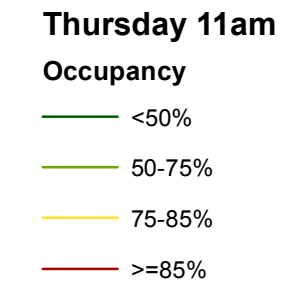
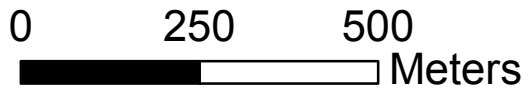
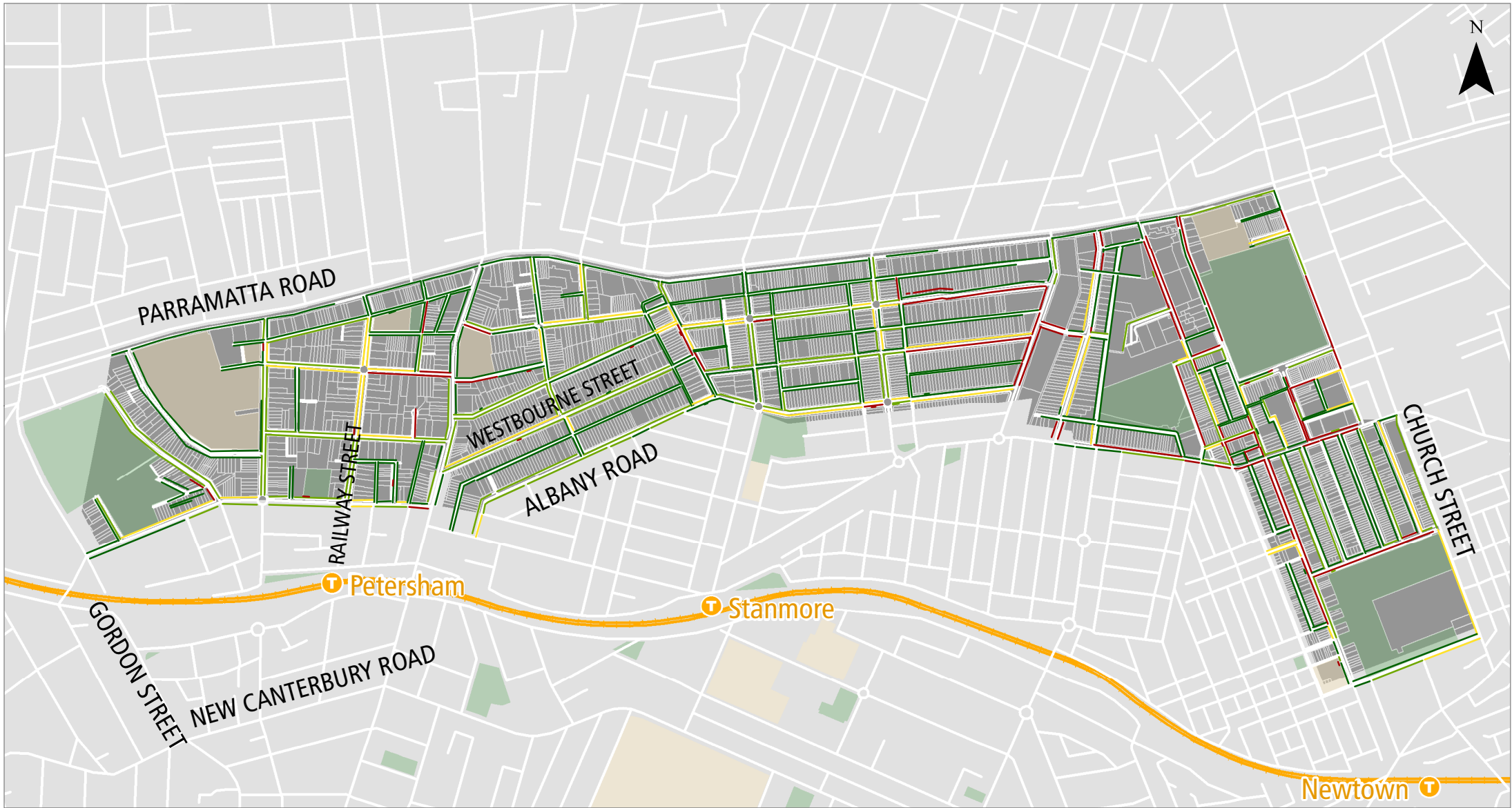
ARUP



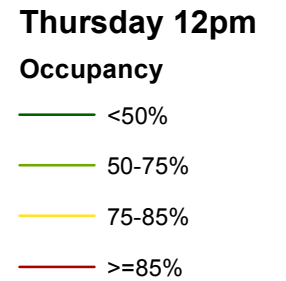
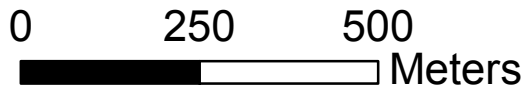
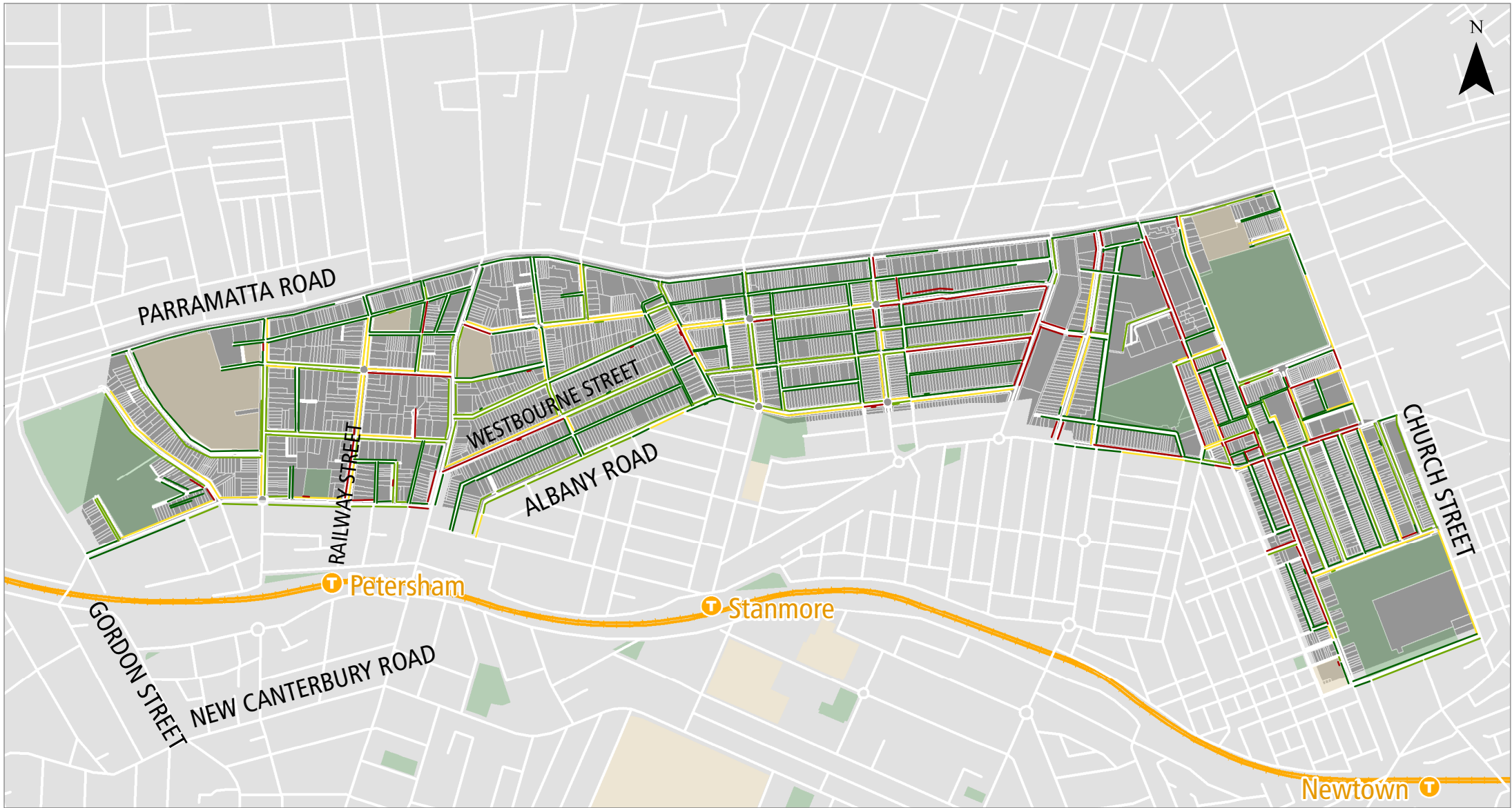
ARUP

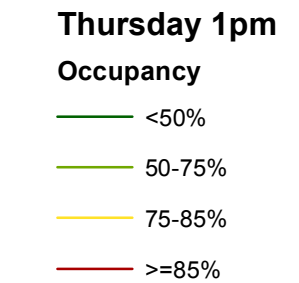
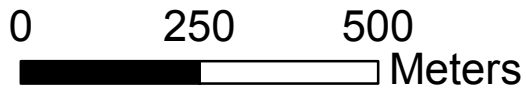




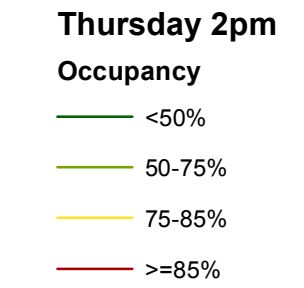
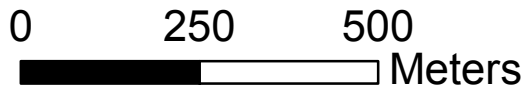
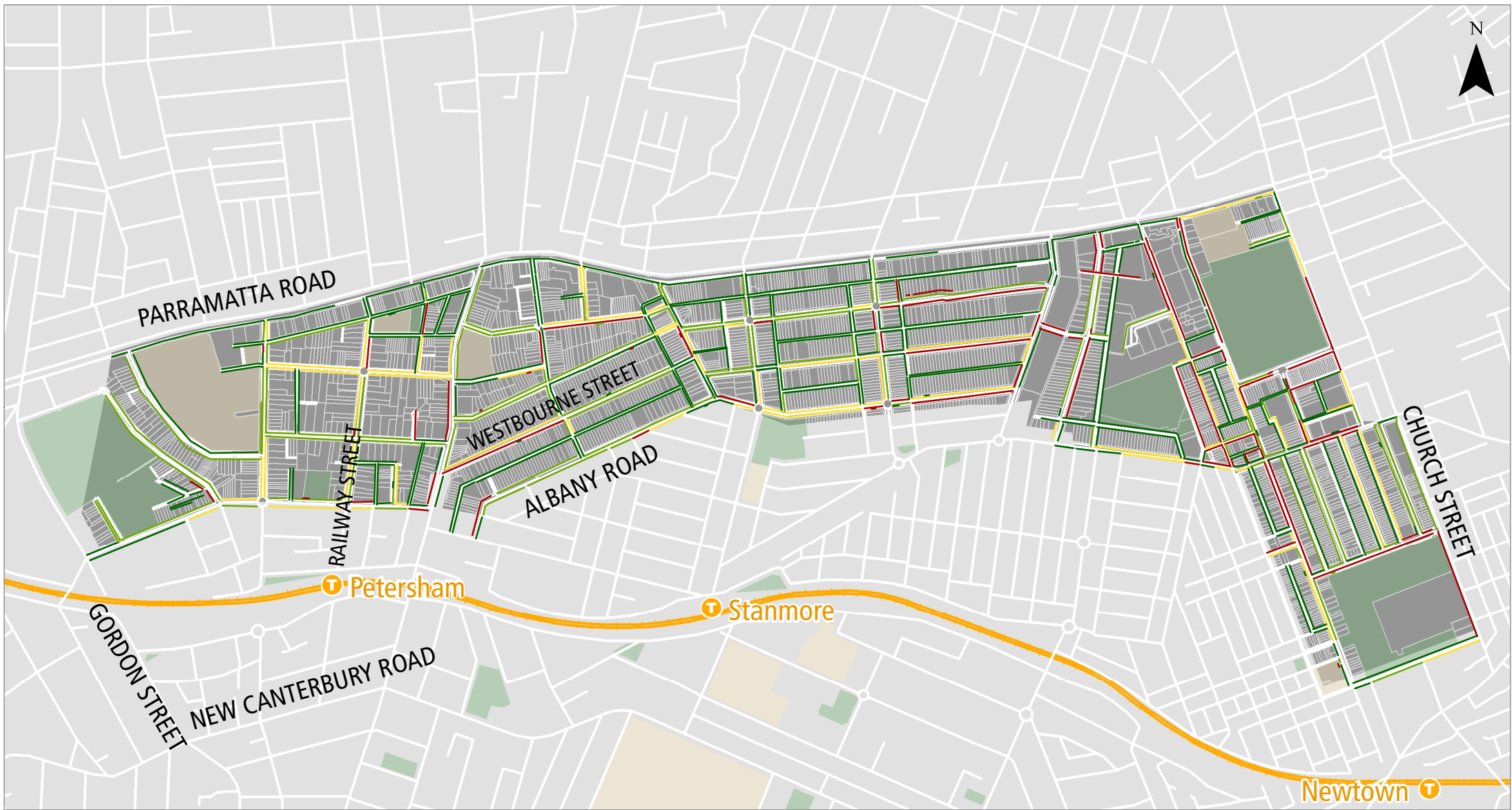


ARUP

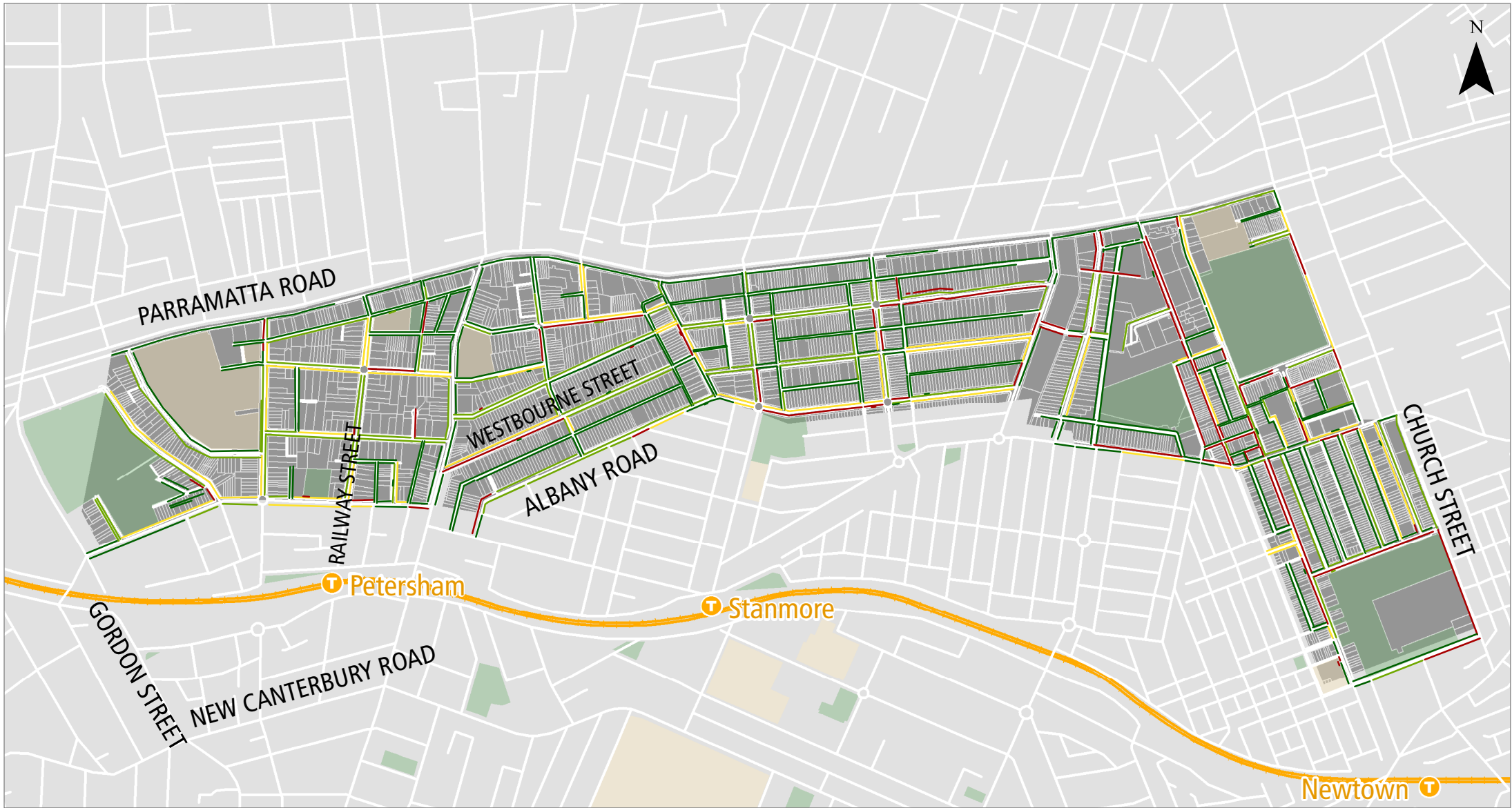




ARUP



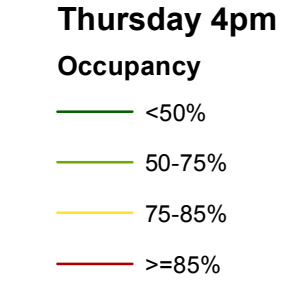
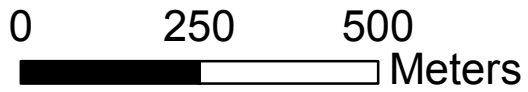
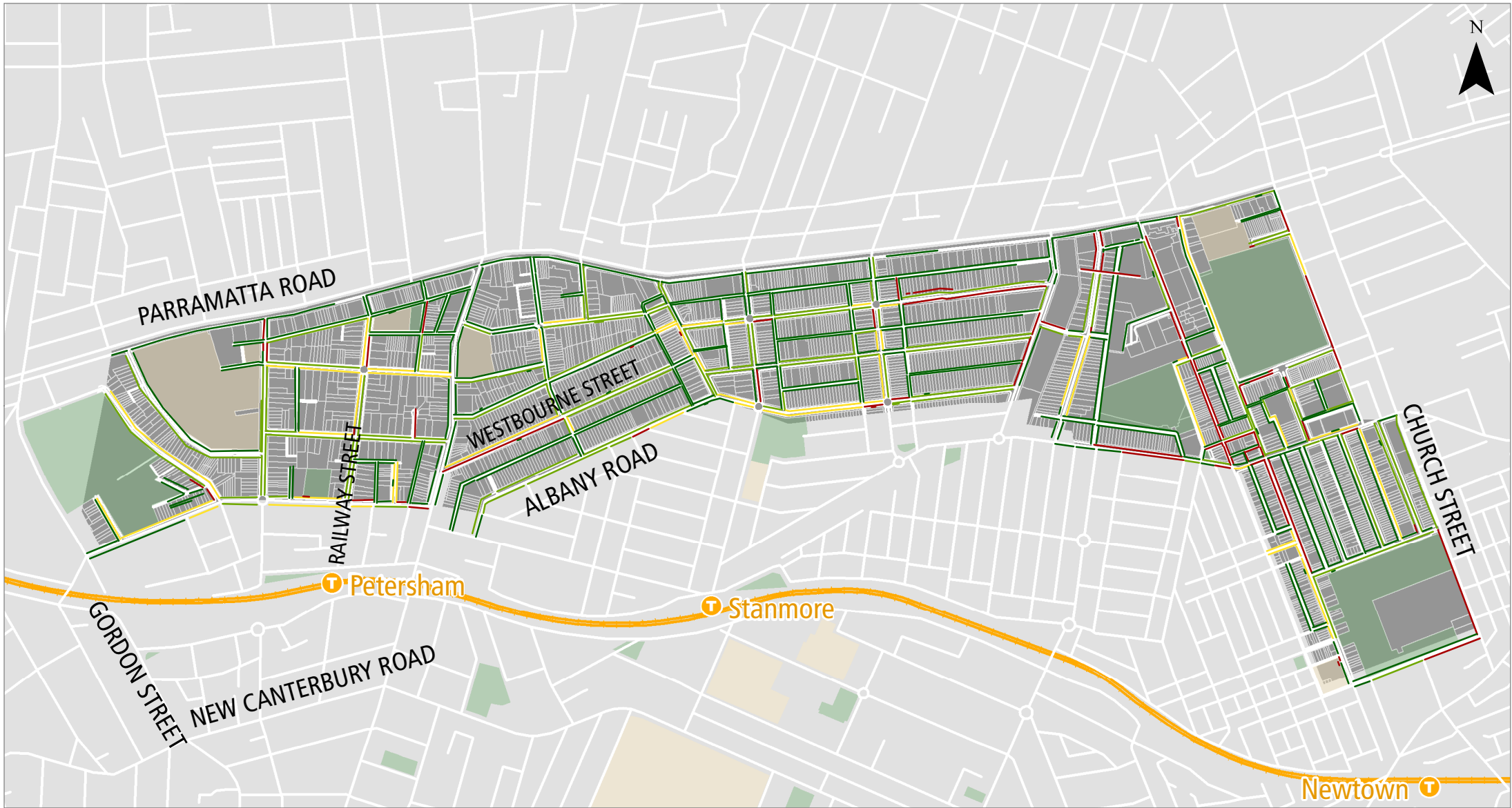
ARUP

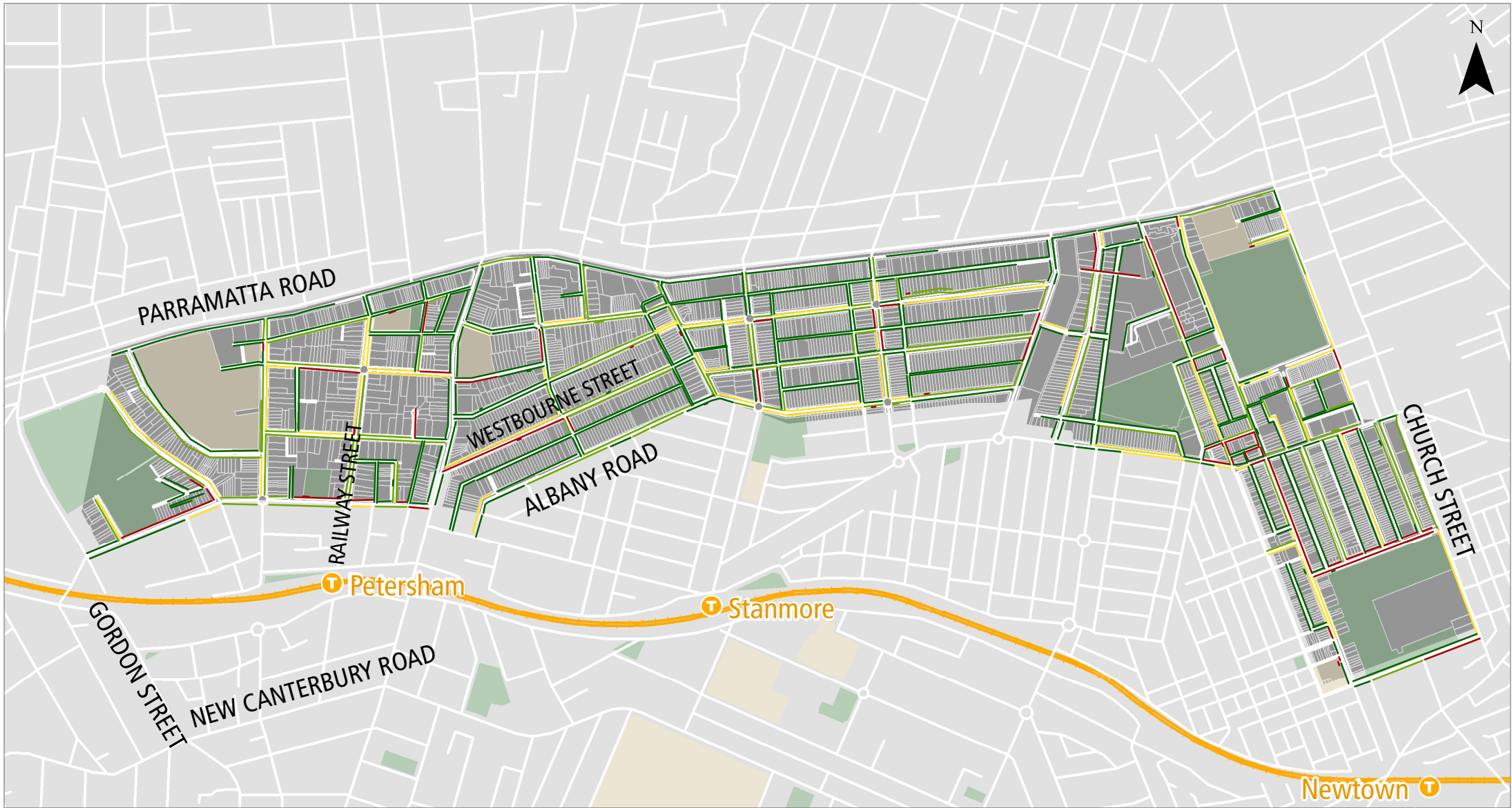


0 250 500
Meters

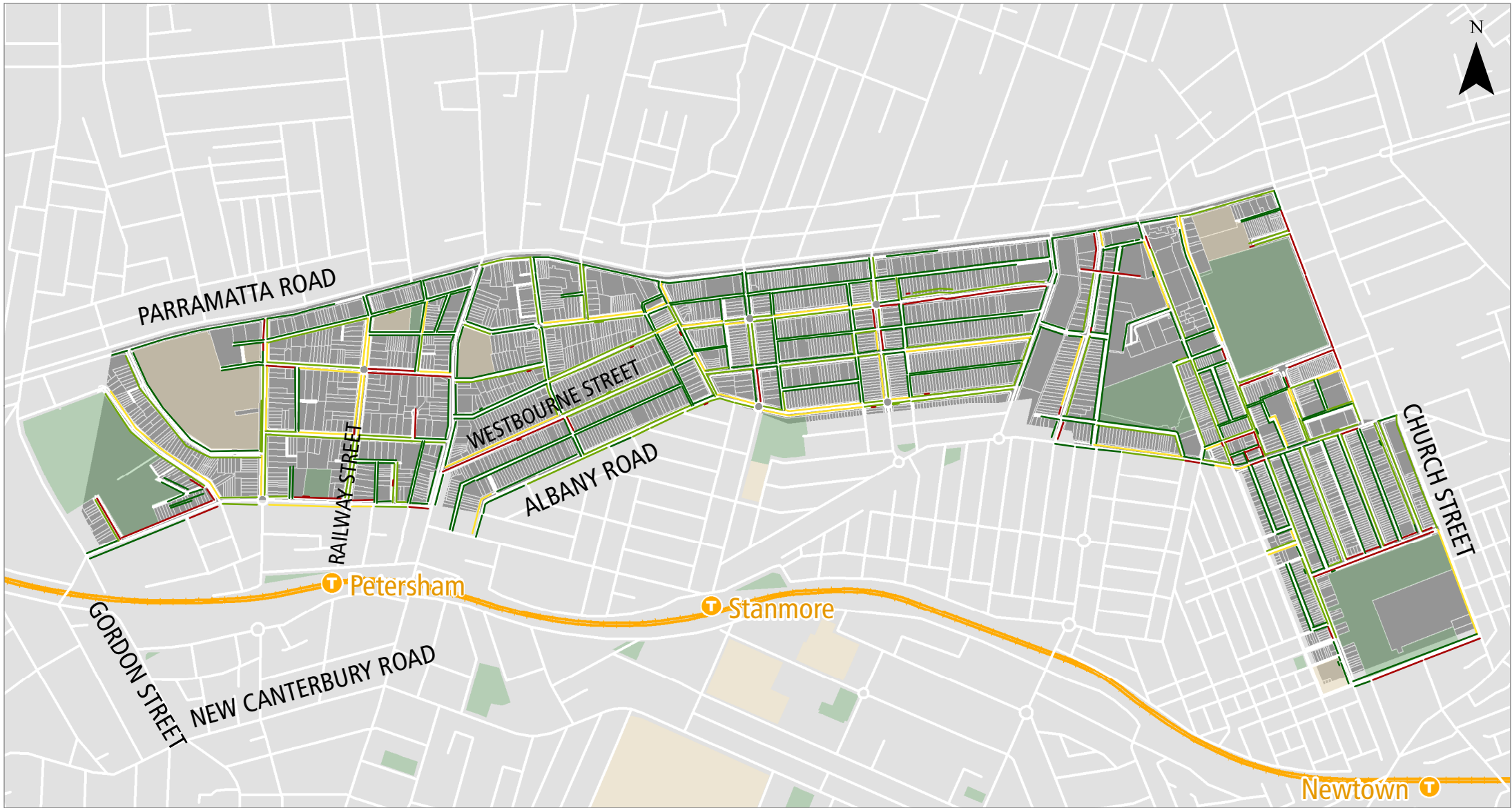
Thursday 3pm
Occupancy

- <50%
- 50-75%
- 75-85%
- >=85%



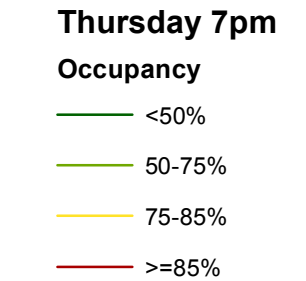
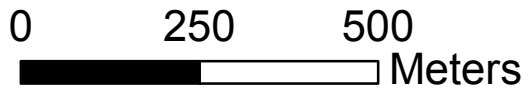
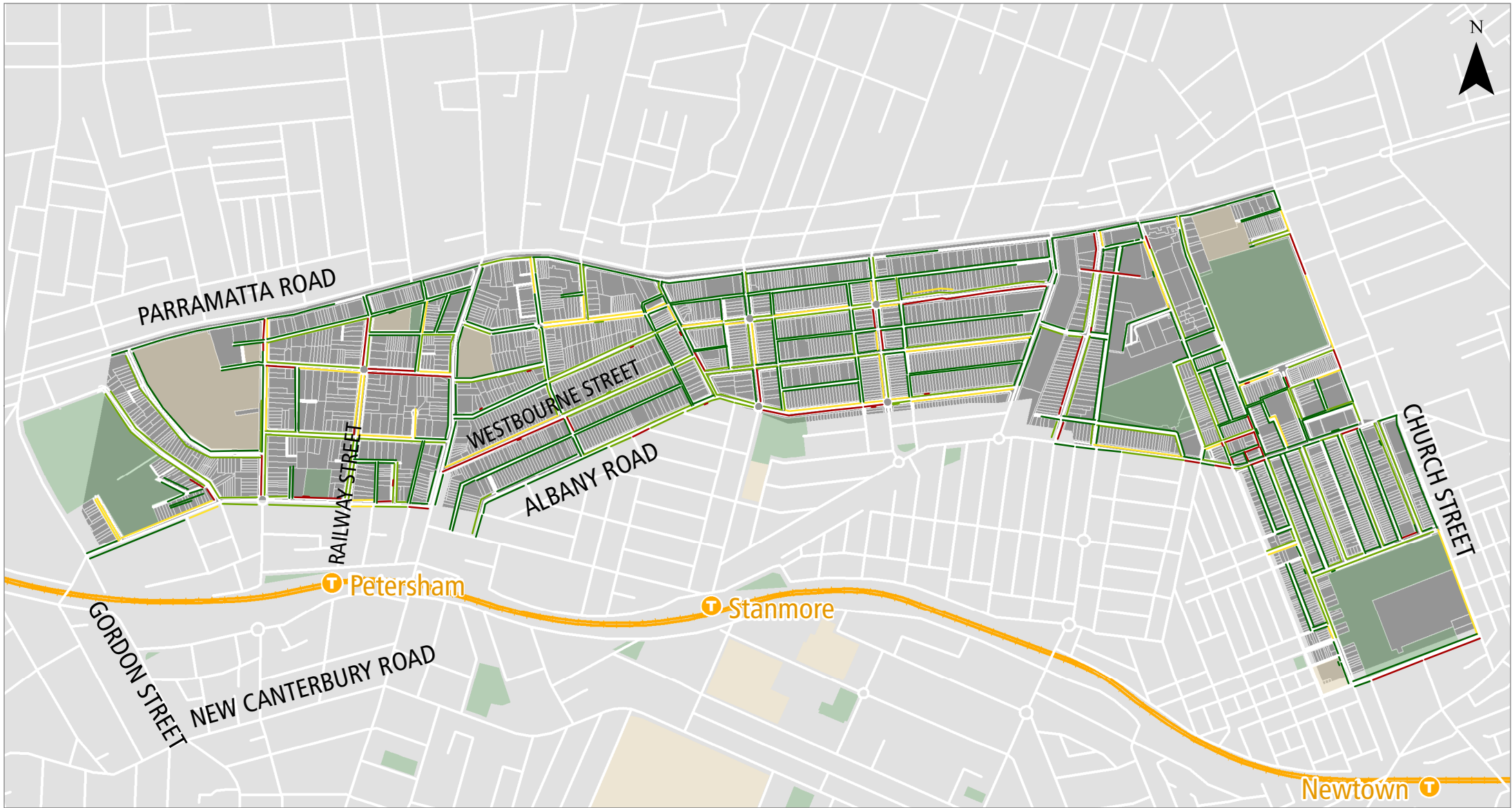


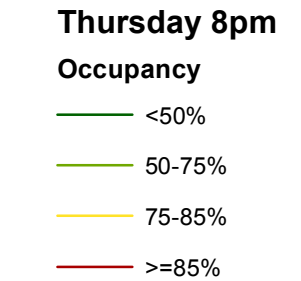
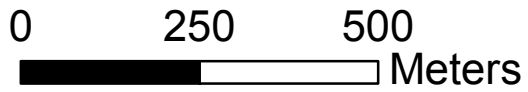
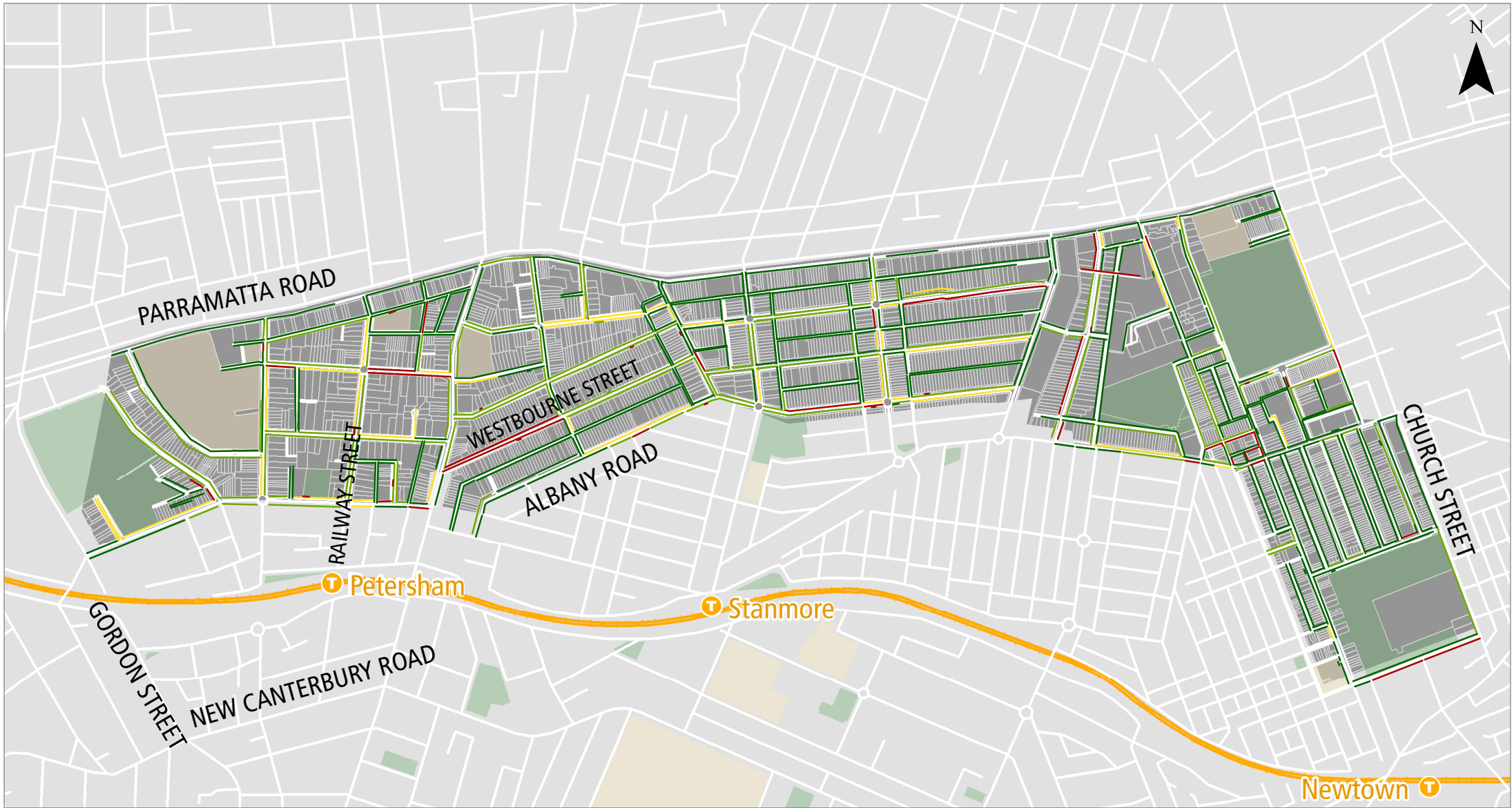
Thursday 5pm
Occupancy
 — <50%
 — 50-75%
 — 75-85%
 — >=85%

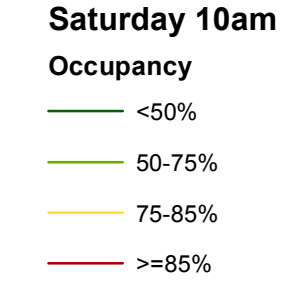
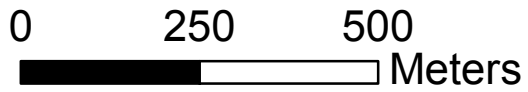
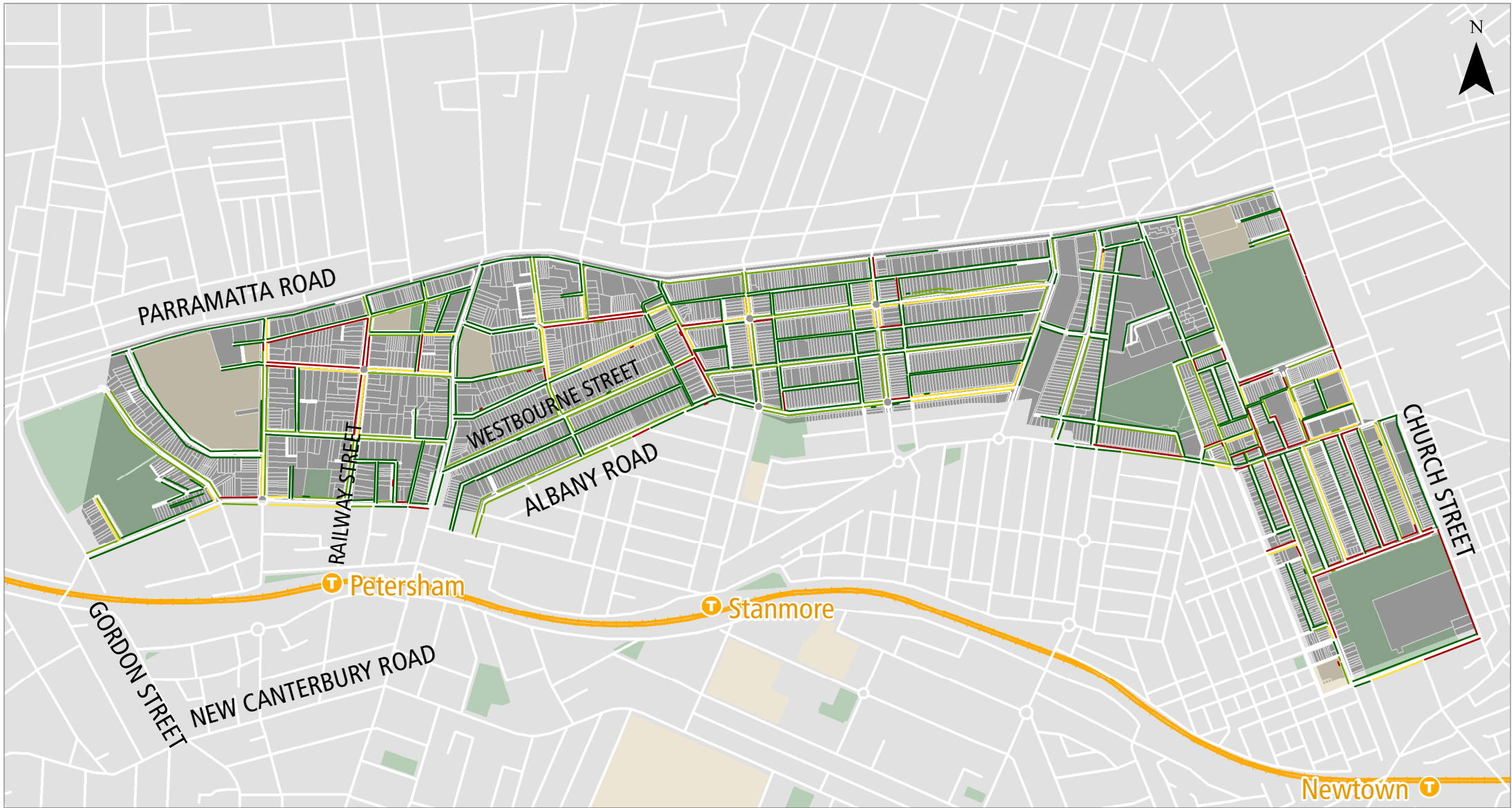


0 250 500 Meters

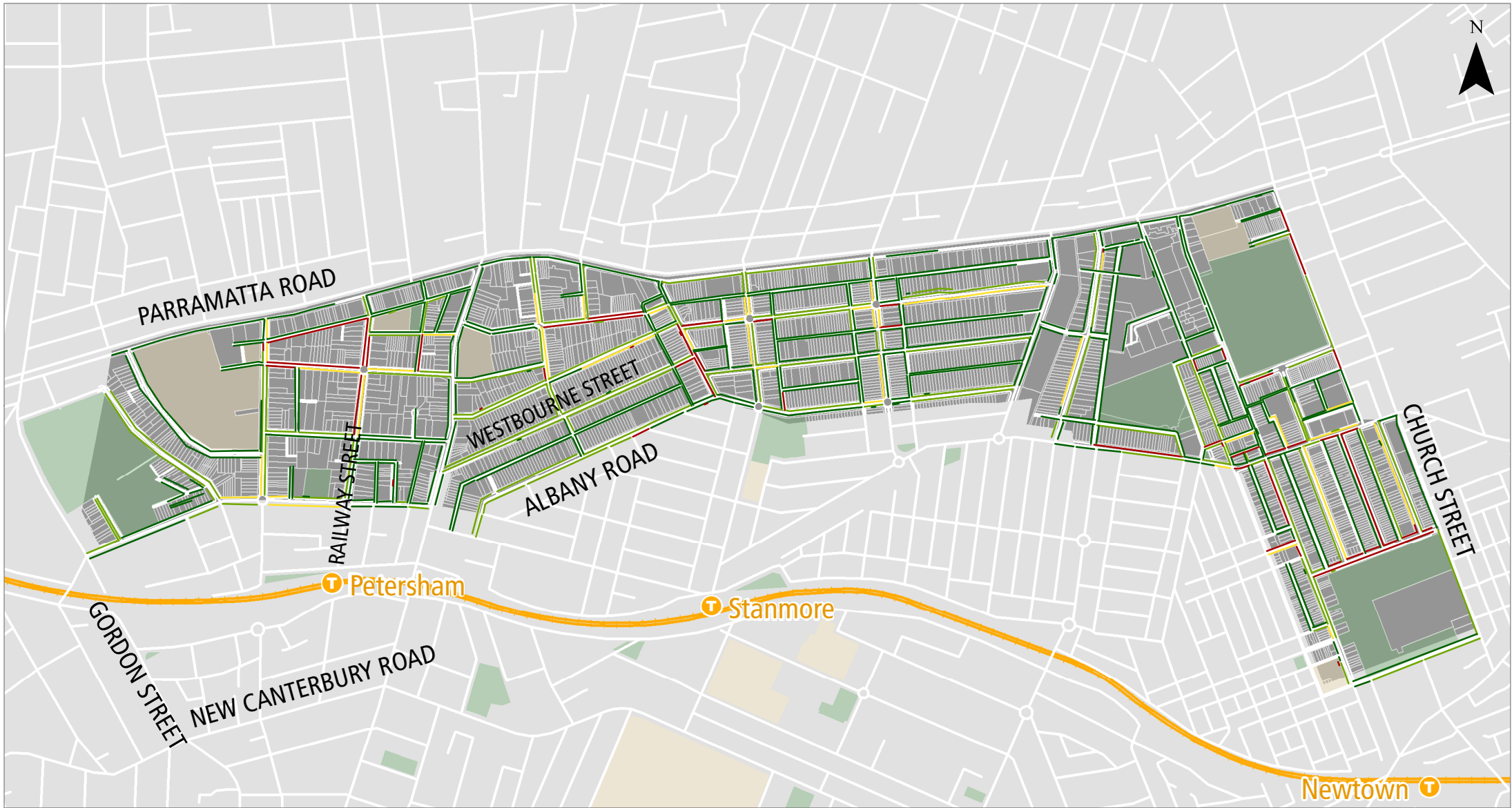
Thursday 6pm
Occupancy
 — <50%
 — 50-75%
 — 75-85%
 — >=85%







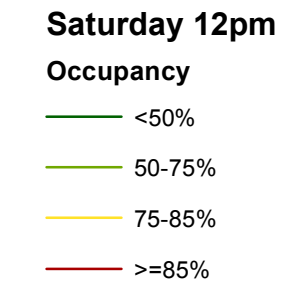
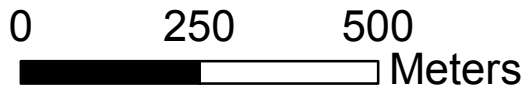
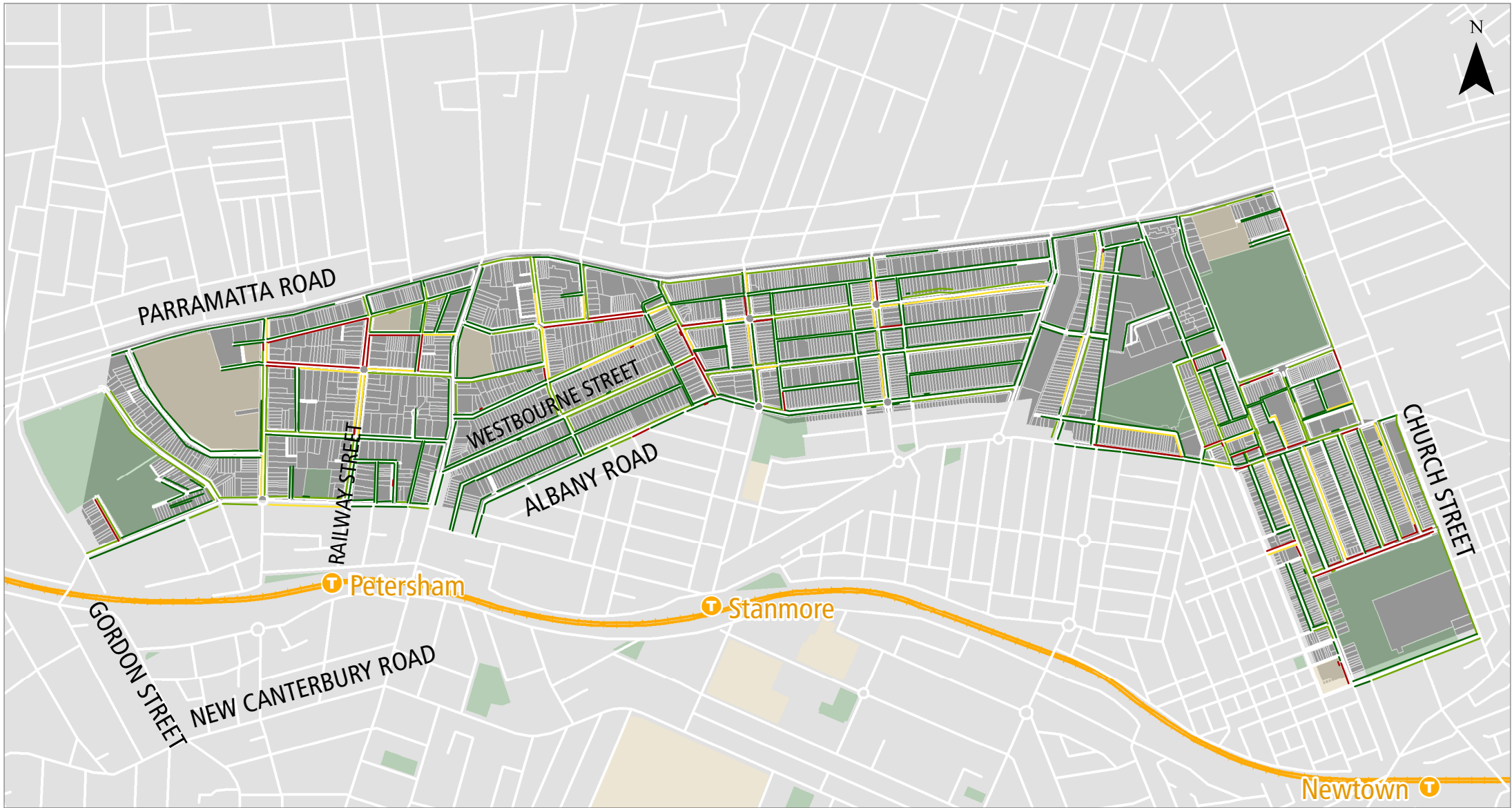
ARUP

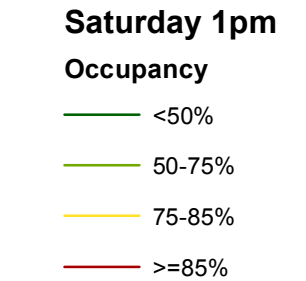
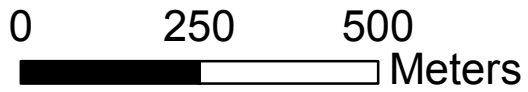
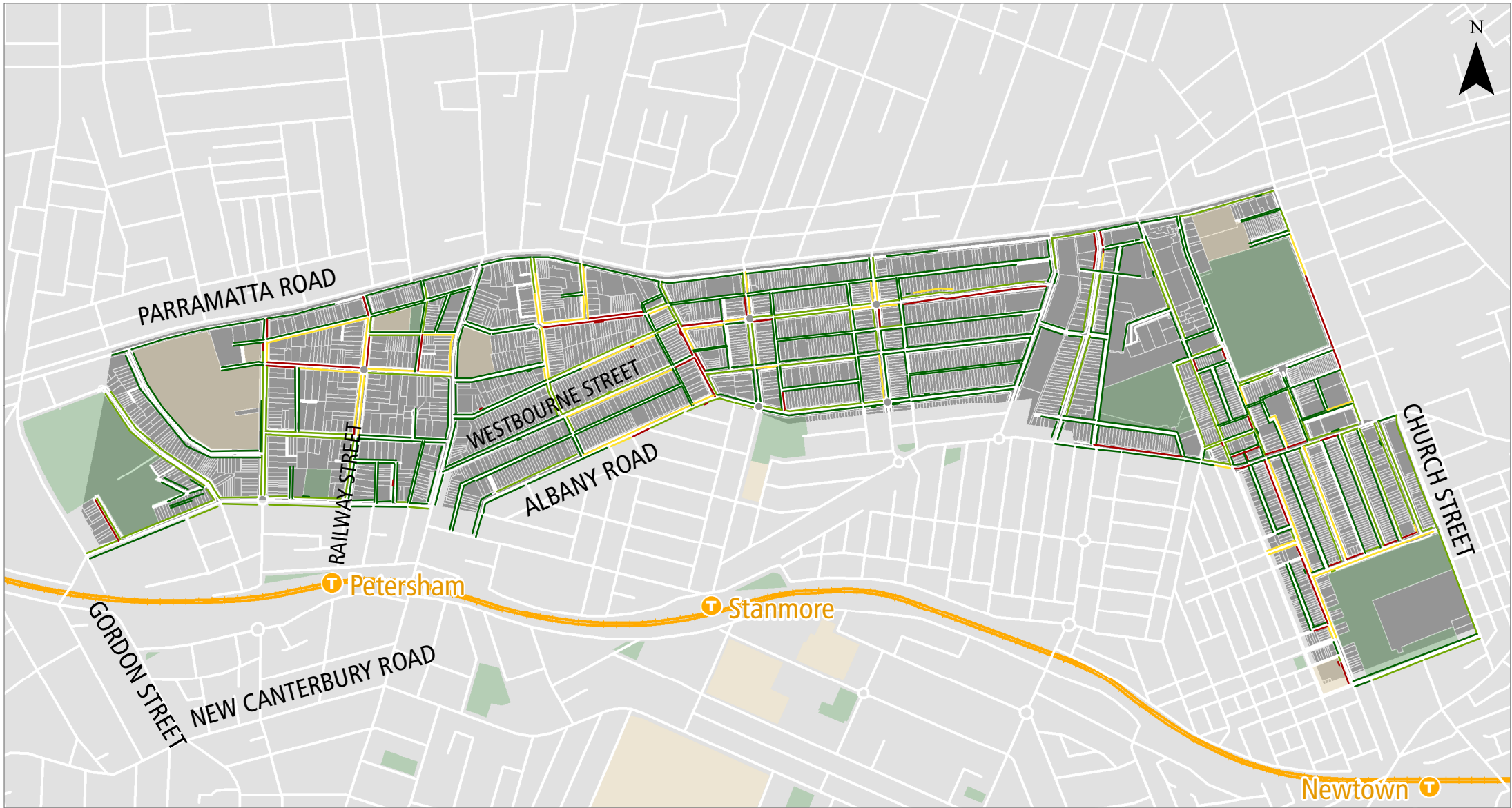


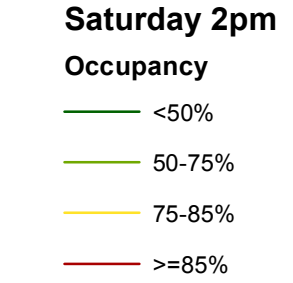
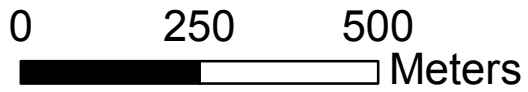
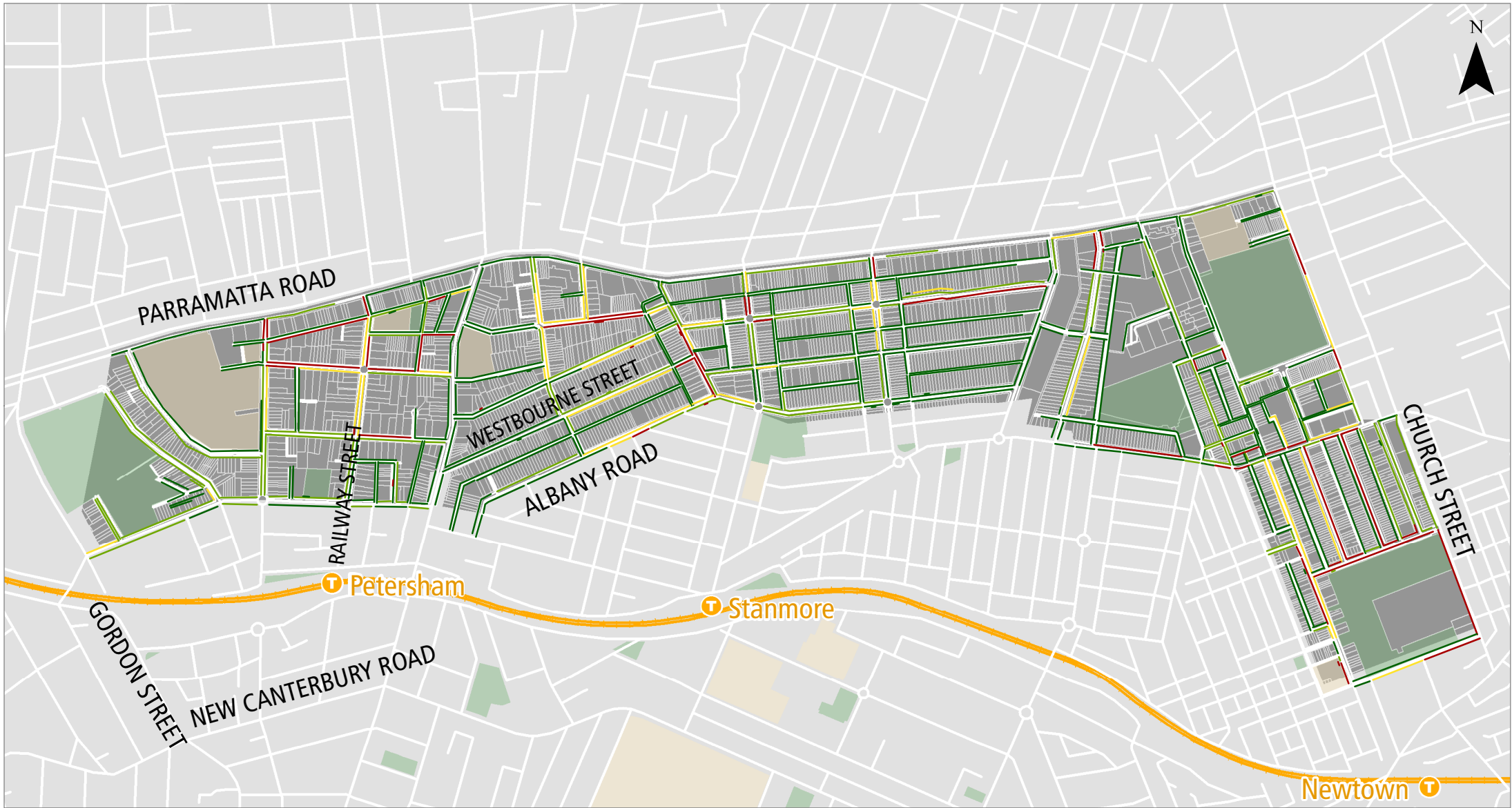
0 250 500
Meters

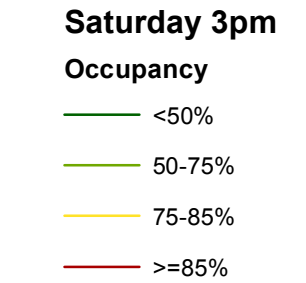
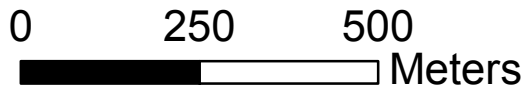
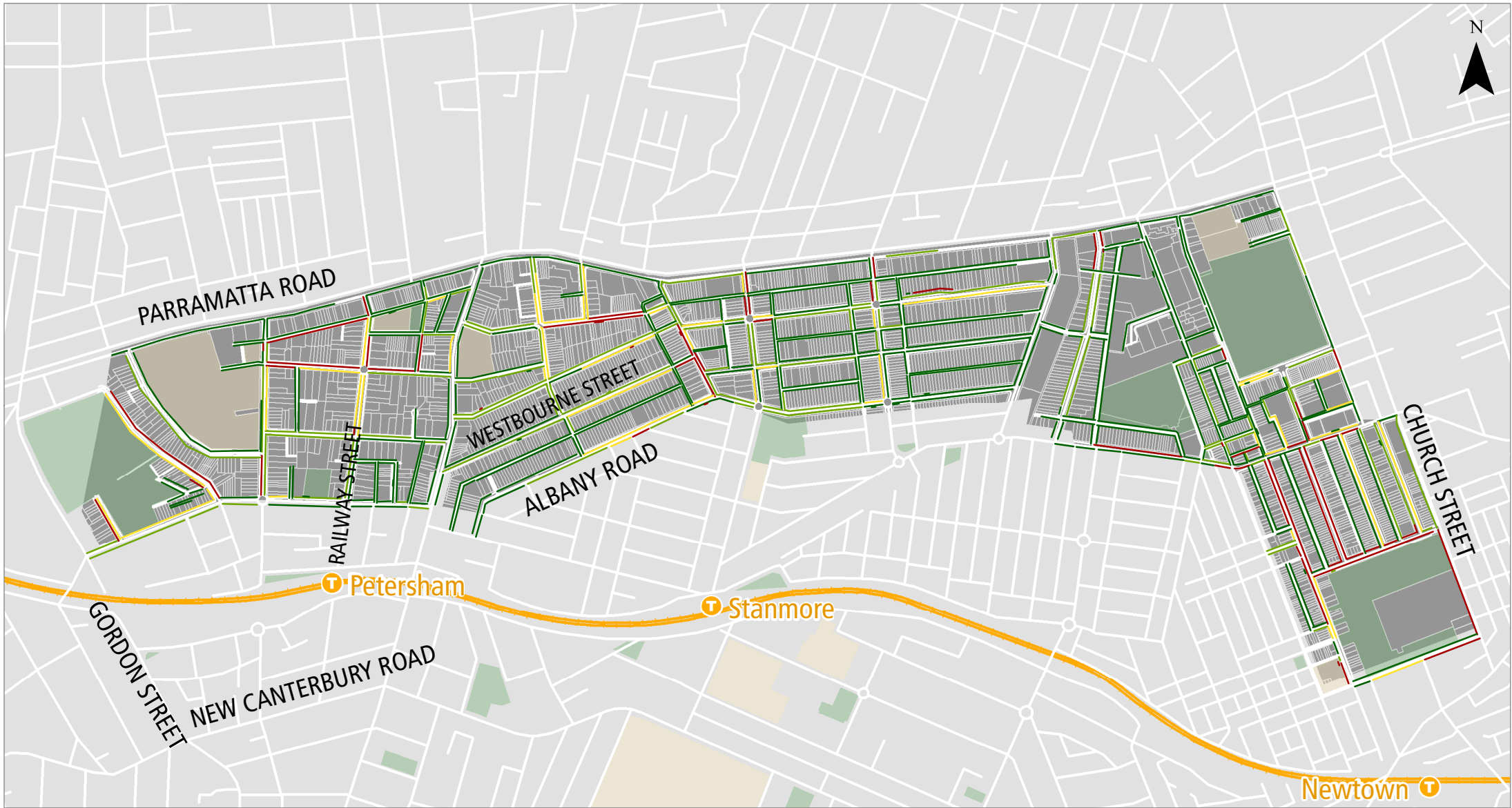
Saturday 11am
Occupancy

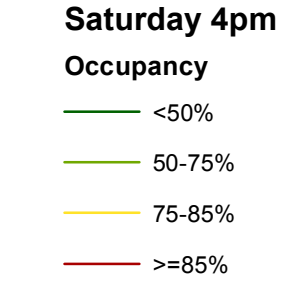
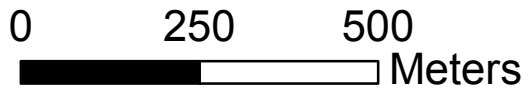
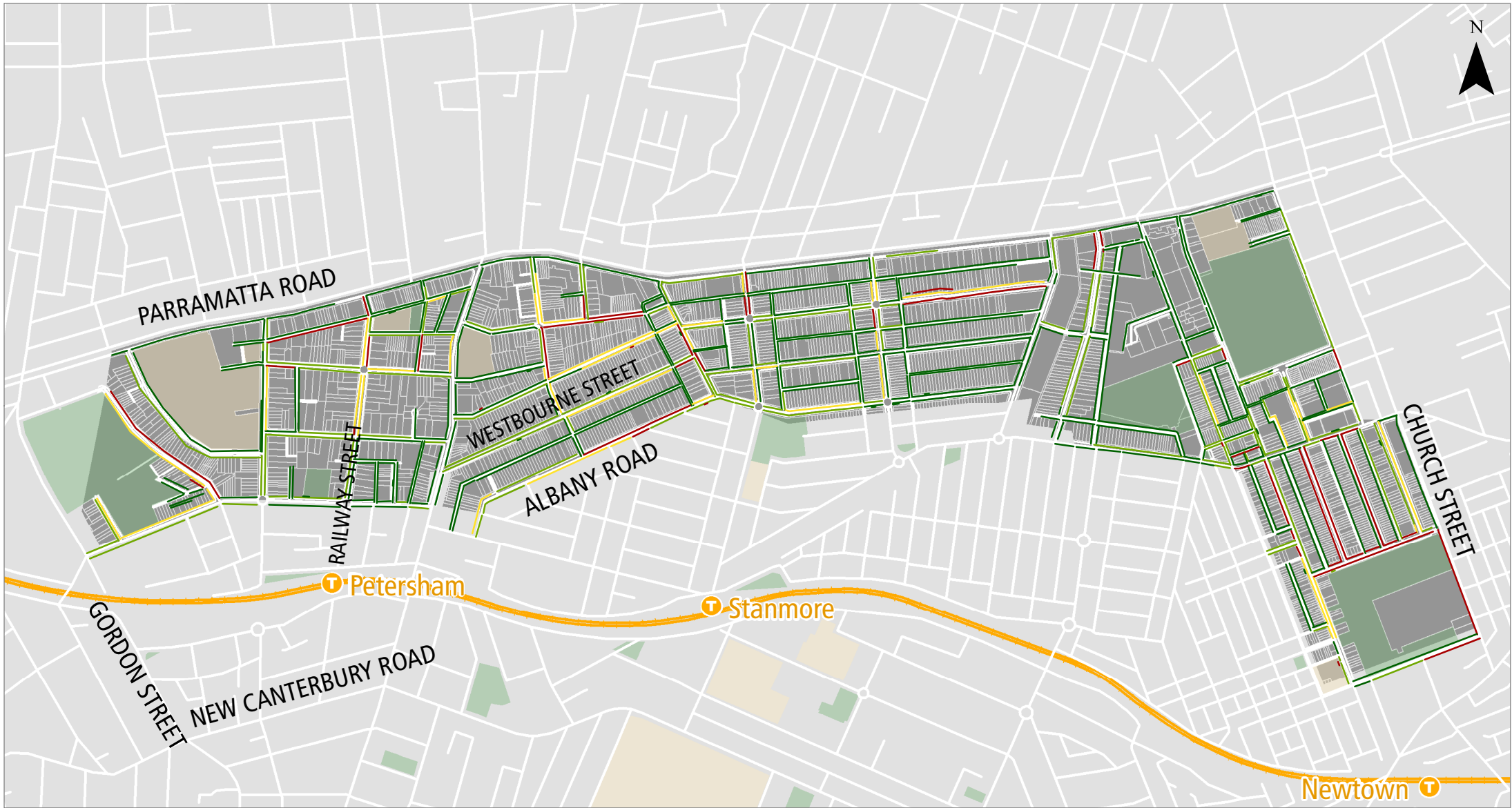
- <50%
- 50-75%
- 75-85%
- >=85%



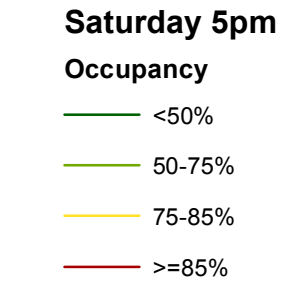
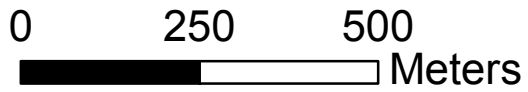
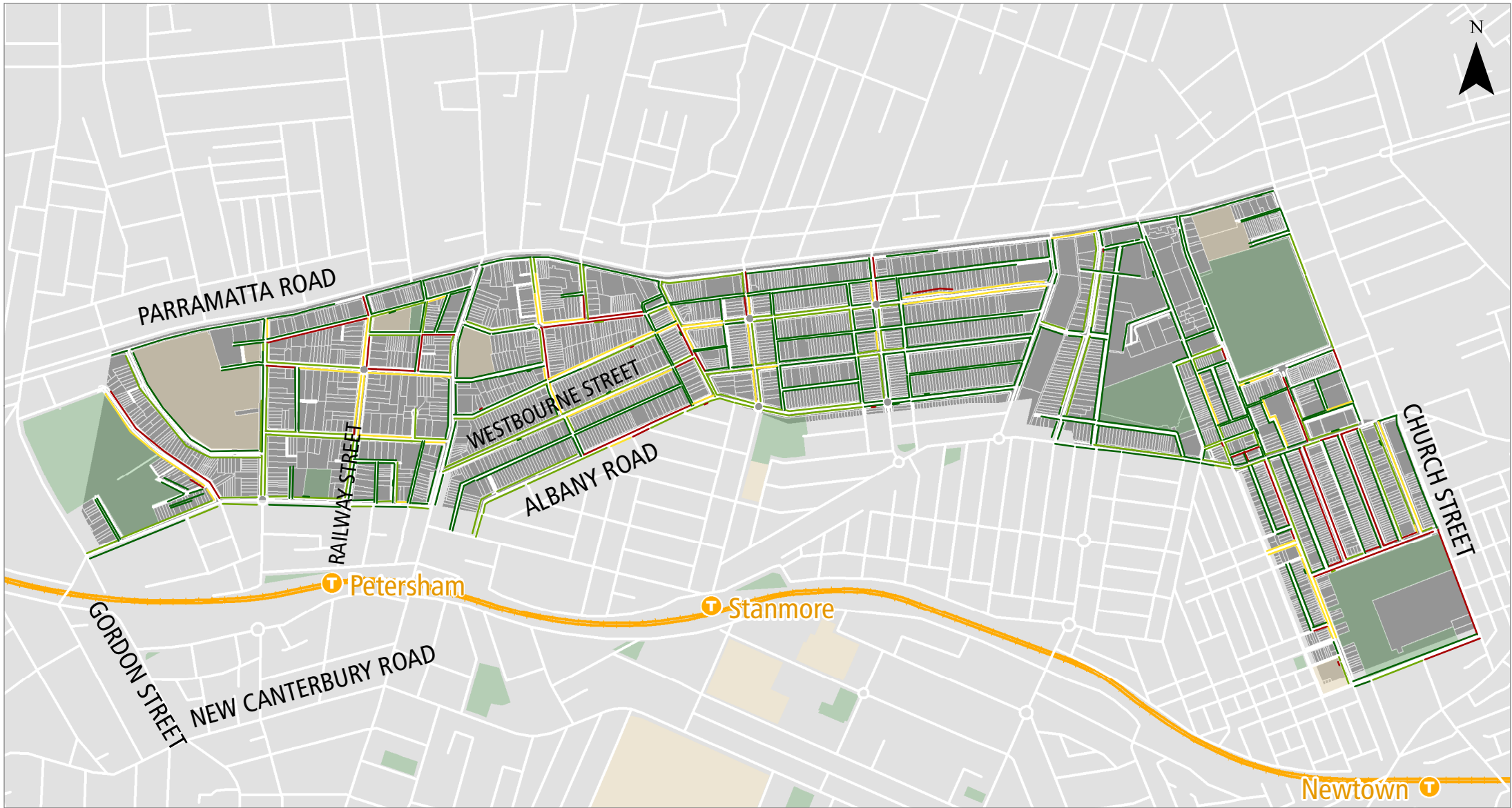


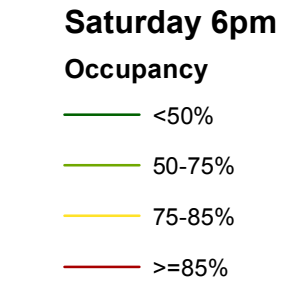
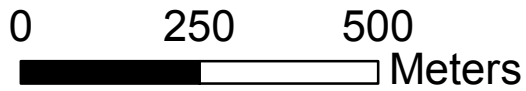
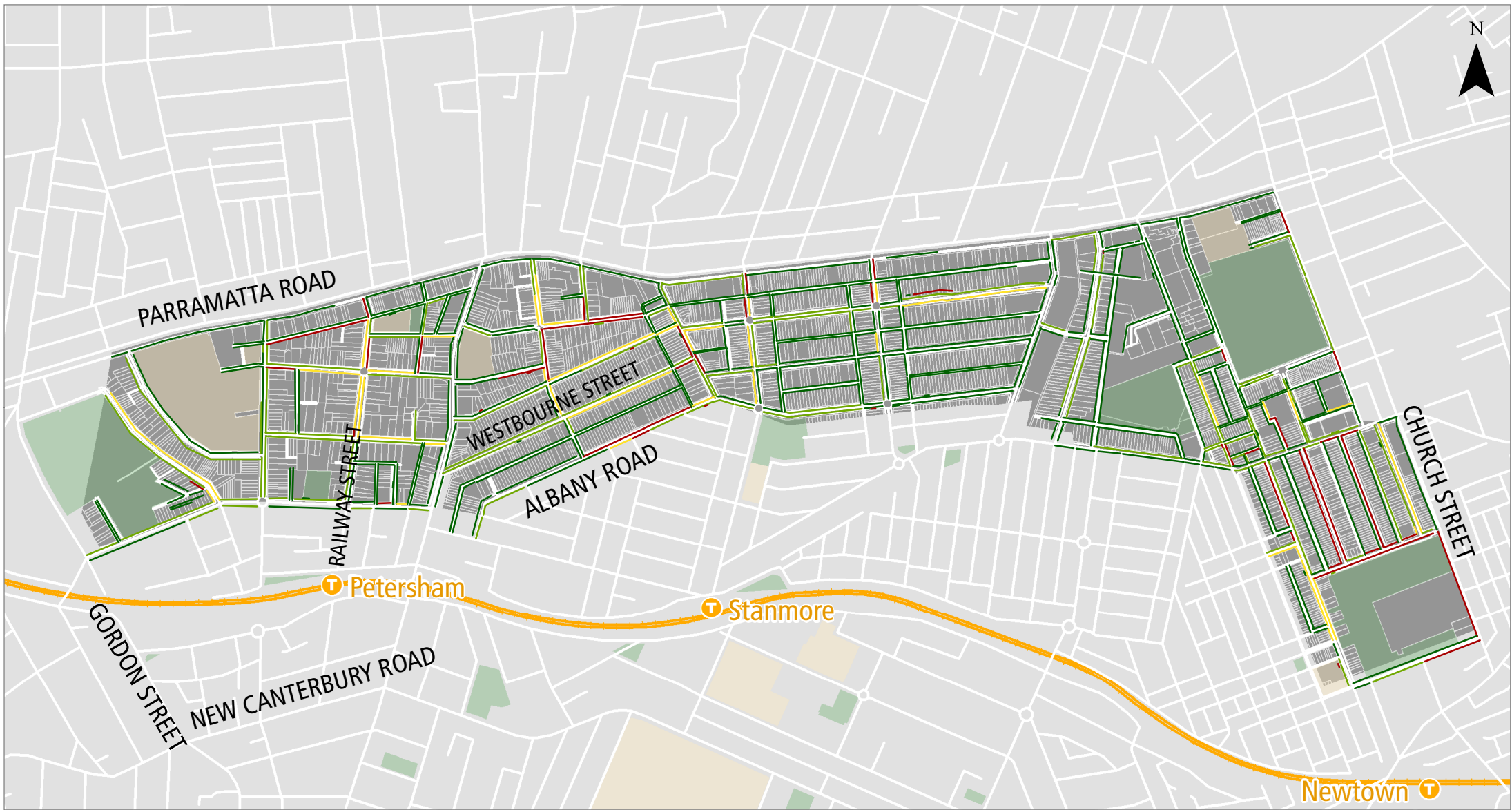






ARUP





Appendix B

Proposed parking restriction changes



- 10P restrictions Mon- Sun
- 2P 8am - 10pm Mon-Sun (M1 permit holders excepted)
- Monitor and consider implementing 10P restrictions

ARUP



- 2P 8am-10pm Mon-Fri
(M5 permit holders excepted)
- Conversion of existing time-restricted
parking to unrestricted parking

ARUP