Marrickville Council

Petersham Parking Strategy

Parking Strategy

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Job number Job number

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

Executive Summary

The Petersham 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 Petersham 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 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 northern end of the precinct (near Petersham railway station) and on streets surrounding the New Canterbury Road retail strip.

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 4,708 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 provides 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 around Petersham Station and immediately south of New Canterbury Road near the Petersham RSL.

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 Petersham precinct;
- Existing parking controls in neighbouring 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: Palace Street	Covert the east side of Palace Street, between Brighton Street and Terminus Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 2: Railway Street	Covert the east side of Railway Street, between Brighton Street and Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 3: Searl Street	Covert the south side of Searl Street, between Palace Street and The Avenue, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 4: Brighton Street	Covert the south side of Brighton Street, between Railway Street and Palace Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 5: Terminus Street	Existing time restrictions on Terminus Street be altered to 2P 8am-10pm Mon-Fri, M5 permit holders excepted
Recommendation 6: Searl Street	Covert the parallel parking bays to marked 90 degree parking bays on Searl Street, from the cul-de-sac to The Avenue
Recommendation 7: Trafalgar Street east	Covert the southern side of Trafalgar Street, between Regent Street and Crystal Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 8: Sadlier Crescent	Covert the south side Sadlier Crescent (between Gordon Street and Audley Street) to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 9: Nelson Place	Covert the east side of Nelson Place, between Trafalgar Street and Sadlier Crescent, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)

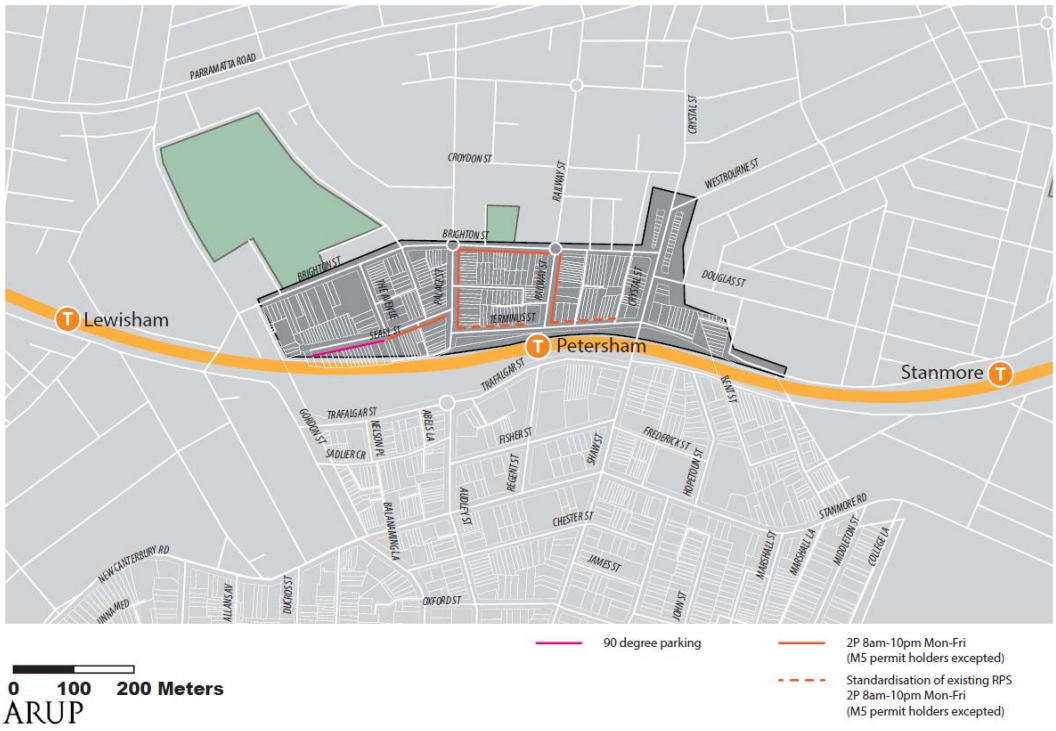
Recommendation	Recommendation Description
Recommendation 10: Chester Street	Covert the south side of Chester Street, between Audley Street and Shaw Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 11: Audley Street	Covert the east side of Audley Street, between New Canterbury Road and Chester Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 12: Fisher Street	Covert the southern side of Fisher Street, between Audley Street and Crystal Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 13:	Covert the following sections of street to be signposted as 2P 8am-10pm (Mon-Fri) & 8:30am-12:30pm (Sat) • Livingstone Road (west) – Rosford Avenue to Chester Street • Chester Street (north) – Livingstone Road to Audley Street • Albert Street (west) – 46 Albert Street to Stanmore Road • Marshall Street (west) – Stanmore Road to driveway
Recommendation 14: Allans Avenue	No parking restrictions along the northern end of Allans Avenue be implemented. This recommendation is subject to further investigation with Council and relevant stakeholders.
Recommendation 15: Ducros Street and Maria Street	Monitor parking demand on Ducros Street and Maria Street to ensure no adverse effects are felt as a result of the recommendations proposed in this strategy
Recommendation 16: Potential loss of parking due to new cycleways	Should on-street parking be removed as part of new cycleways proposed through the precinct, Council should consider either the implementation of resident parking controls and/or the introduction of angled parking to mitigate this loss of spaces
Recommendation 17: Laneway parking	Continue to apply the *Draft Laneway Guidelines* (initial caps please) to streets within the study area, with proposals to modify parking arrangements in laneways to be considered on a case by case basis.
Recommendation 18: 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.
Recommendation 19: 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

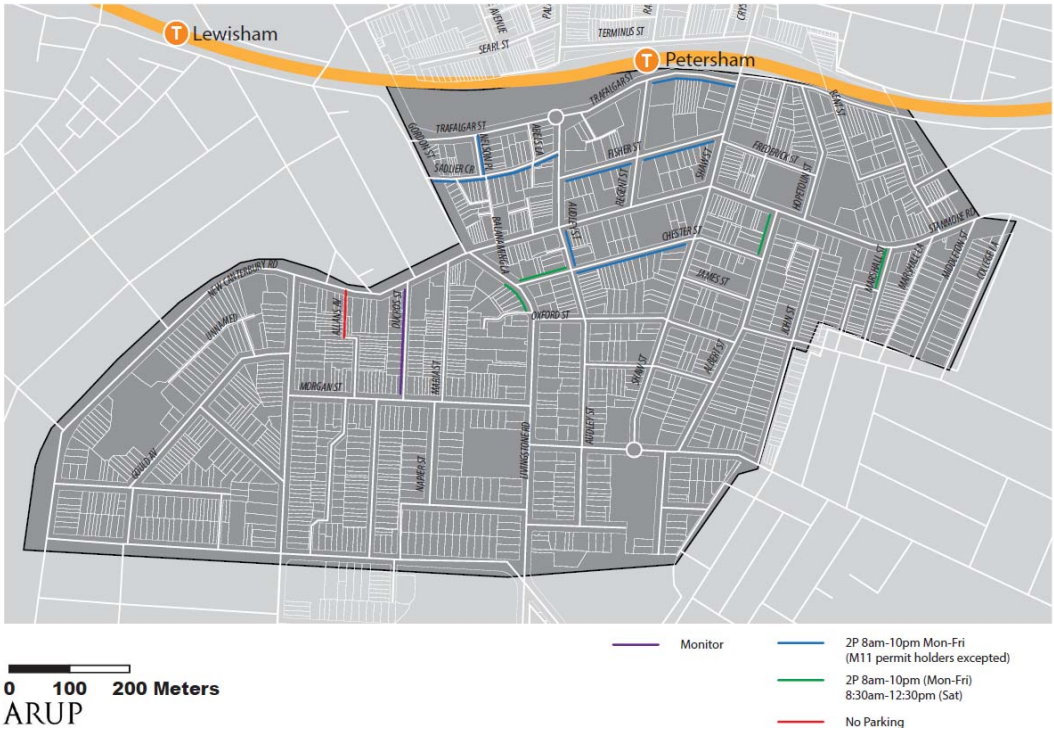
The streets subject to the proposed changes to parking restrictions, and the number of car parking spaces impacted, are summarised in Table 2.

Table 2 Overview of proposed parking restriction changes

Location	Between	Proposed Changes					
		2P	2P (8am - 10pm Permit Excepted - Mon to Fri)	2P (8.30am - 6pm Permit Excepted - Mon to Fri)	No Parking (PM peak)	No restrictions	No Parking
Trafalgar Street (south)	Regent Street to Crystal Street		+12			-12	
Sadlier Crescent (south)	Gordon Street to Audley Street		+28			-28	
Nelson Place (east)	Trafalgar Street to Sadlier Crescent		+7			-7	
Fisher Street (south)	Audley Street to Crystal Street		+28			-28	
Chester Street (south)	Audley Street to Shaw Street		+15			-15	
Audley Street (east)	69 Audley Street to Oxford Street		+15			-15	
Livingstone Road (west)	Rosford Avenue to Chester Street	+10			-10		
Chester Street (north)	Livingstone Road to Audley Street	+7				-7	
Albert Street (west)	46 Albert Street to Stanmore Road	+4				-4	
Marshall Street (west)	Stanmore Road to driveway	+2			-2		
Allans Avenue (north)	Canterbury Road to bend)					-10	+10
Searl Street (south)	The Avenue to Palace Street		+19			-19	
Searl Street (south)	The Avenue to cul-de-sac					+13	
Palace Street (east)	Brighton Street to Terminus Street		+22			-22	
Railway Street (east)	Brighton Street to Terminus Street		+18			-18	
Palace Street (east)	Searl Street to South Avenue		+9			-9	
Brigthon Street (south)	Palace Street to Railway Street		+20			-20	
Terminus Street (north)	Palace Street to Crystal Street		+44	-44			
Total		**+23**	**+237**	**-44**	**-12**	**-201**	**+10**

The recommended changes to parking controls are illustrated below.





Contents

1 Introduction

Arup has been engaged by Marrickville Council to prepare the Petersham Parking Strategy. The study investigates and reviews on-street and off-street parking policy and management strategies in the Petersham parking 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 Petersham area
- Forecast changes in parking demand throughout the study area
- 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 Consultations
- Chapter 6 - Parking Survey
- Chapter 7 - Parking Management Recommendations
- Chapter 8 - Summary

2 Study Background

2.1 Appreciation of study

The Petersham precinct is a primarily low residential area characterised by a variety of different surrounding competing land uses, including retail and wholesale, education, entertainment and recreational. Each of these land uses has specific parking

Key transport and parking issues for the Petersham precinct include:

- Commuter parking demands around Petersham station
- Retail / visitor demand generated by New Canterbury Road shopping strip
- Number of major road corridors in the precinct, including Parramatta Road and Stanmore Road

Competition for kerb side parking in the precinct is intense and Council has been involved in consultation with residents/ businesses/ stakeholders groups/ key trip generators for some years now. It is important to recognise that local businesses and entertainment facilities contribute to the vitality of the precincts, particularly around town centres, and therefore an appropriate balance must be maintained between the car parking needs of residents and businesses in the area.

Laneway parking is a common issue across the precinct, where a number of relatively narrow laneways exist where on-street parking is often available. It is noted that the presence of parked vehicles in these laneways often causes conflicts with passing traffic and impacts on access to residential driveways. The narrow carriageway width can prevent residents parking in their driveways – forcing them to park on-street which leads to increased parking pressures for the precinct.

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.

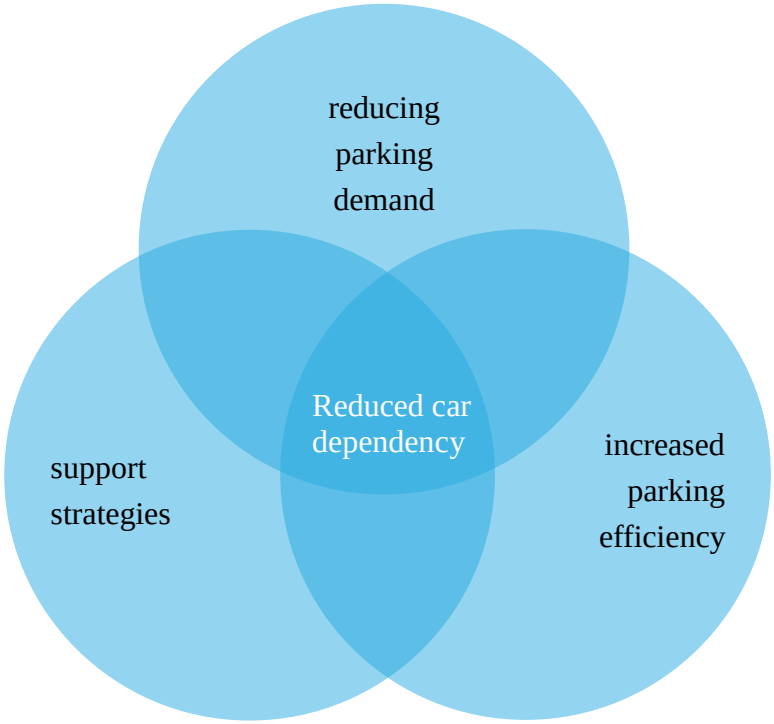


Figure 1: Integrated Approach to Reducing Car Dependency

3 Study Area and Planning Context

3.1 Location

The Petersham study area is shown in Figure 2. This area is bound by Brighton Street to the north, John Street and Livingstone Road to the east, Challis Avenue to the south, and New Canterbury Road to the west.

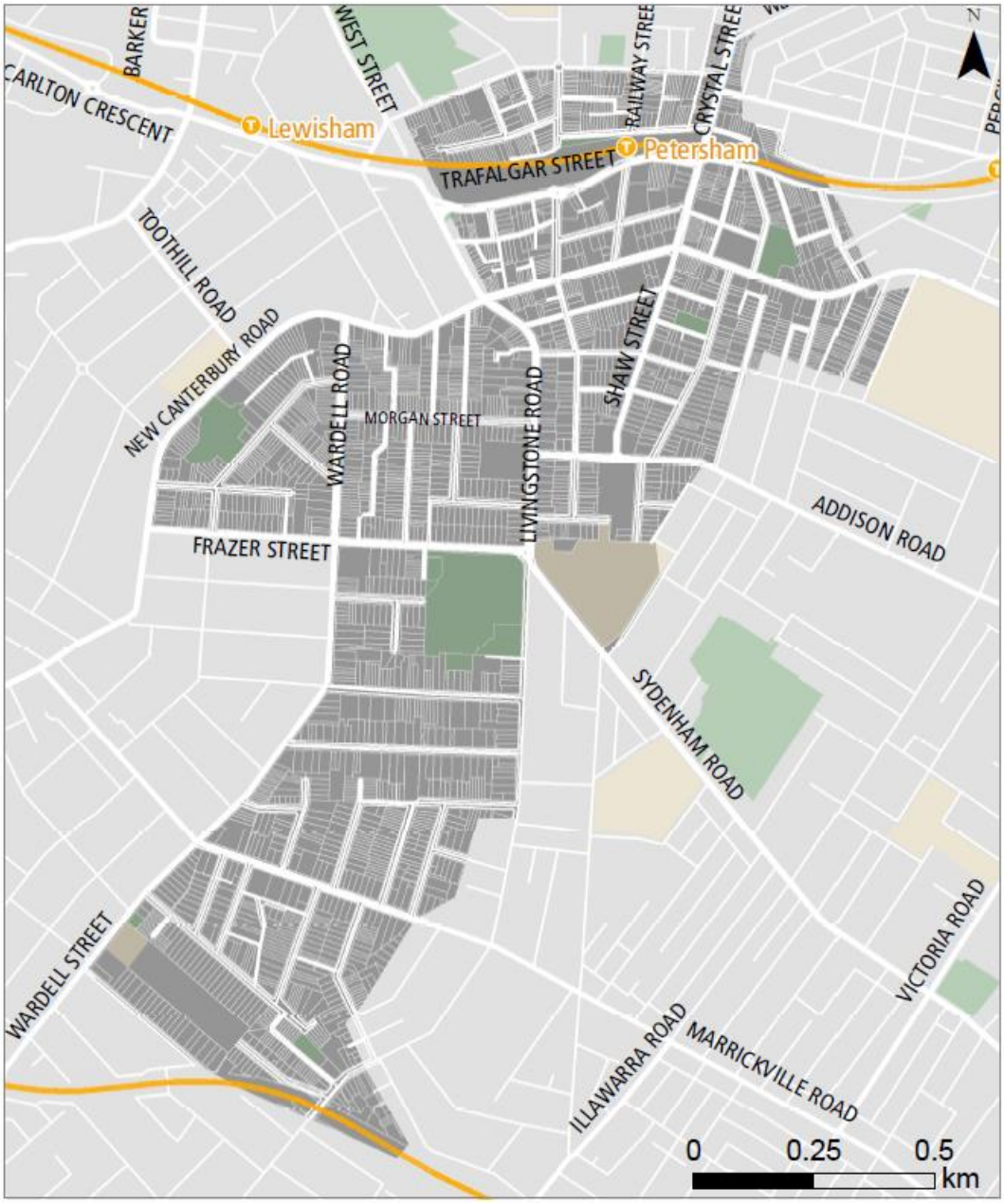


Figure 2: Petersham study area

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."

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 3.

Table 3: 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 April 2015. Note that rates are reviewed on the 1 July every year.

4 Existing Conditions

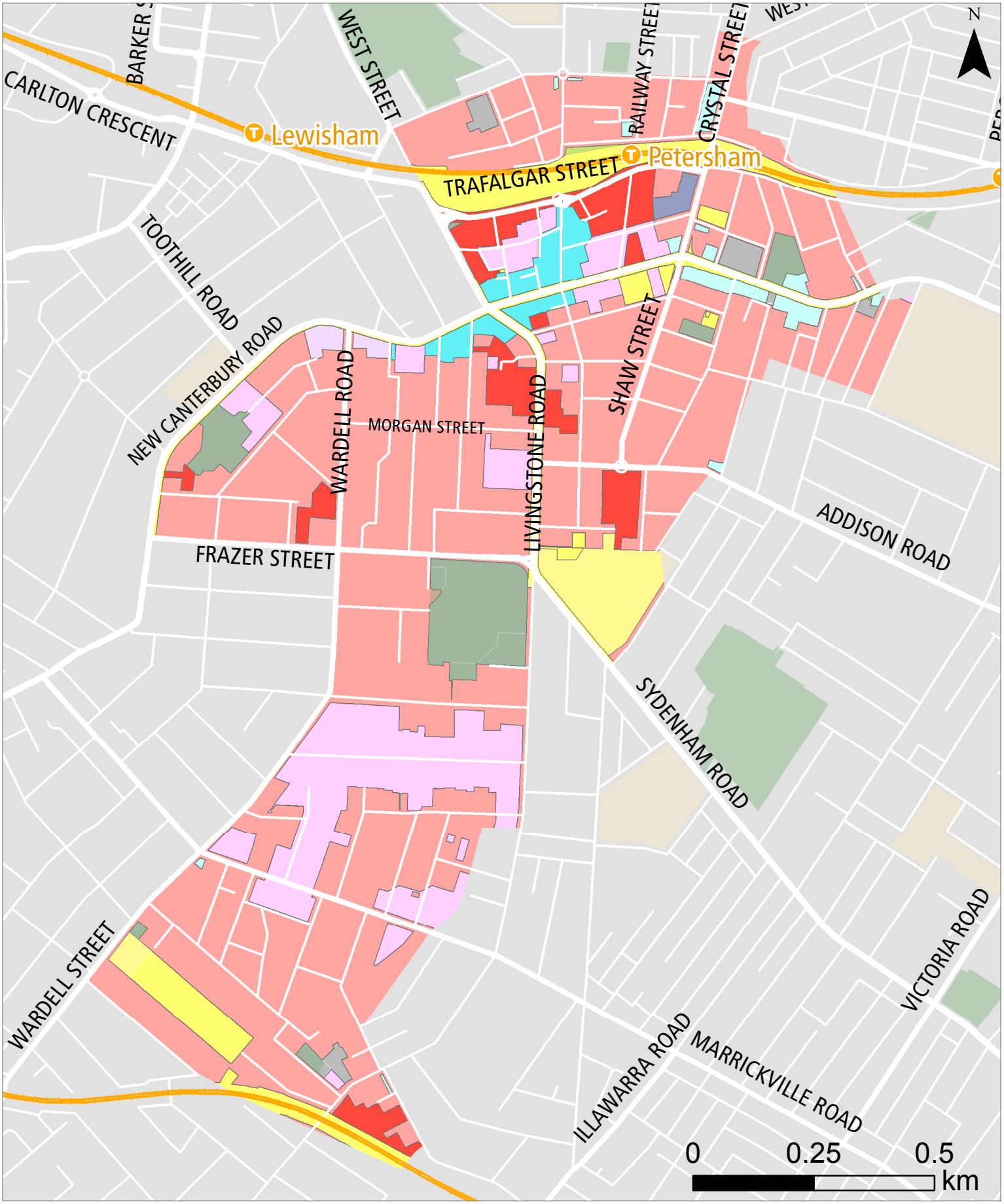
4.1 Existing land uses

The Petersham study area is located north of the Marrickville and Dulwich Hill railway station and includes Petersham railway station. The existing land uses in the study area are primarily residential with two educational institutions and public parks as illustrated in Figure 3.

The area is primarily served by train services and a network of bus services in the local streets. The Marrickville and Dulwich Hill railway station is located within 400 metres from the southern border of the study area.

Key traffic generators in the study area include small retail shops, surrounding railway stations, Marrickville Council (Administration Building), Petersham RSL Club, and Wilkins Public School. Newington College while not in the study area of this report, is located just east of the study area boundary.

The study area is characterised by a primary mix of low residential land uses and small shopping centres located near the Petersham railway station. The town centre located just north of the railway station service the residents in the area.



B1 - Neighbourhood Center
B2 - Local Center
B3 - Commercial Core
B4 - Mixed Use
B5 - Business Development
B7 - Business Park
IN1 - General Industrial
IN2 - Light Industrial
R1 - General Residential
R2 - Low Density Residential
R3 - Medium Density Residential
R4 - High Density Residential
RU4 - Rural Small Holdings
SP1 - Special Activities
SP2 - Infrastructure

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Petersham Parking Study - Figure 3

4.2 Population

4.2.1 Household occupancy

2011 Census Data for the suburb of Petersham encompassing the majority of the study area, surveyed 7,529 residents across 1.3km^2.

There are approximately 3,400 occupied households across Petersham. 2011 Census Data for the suburb of Petersham indicates an average household occupancy of 2.2 people per dwelling.

The household size for the Petersham suburb is summarised in Figure 4. There is a trend in the preference of smaller households with approximately 32% and 35% 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 study area is within close proximity to the Sydney CBD, and therefore the Sydney Urban Centre/Locality (UCL) was used as a basis for statistical comparison to Petersham.

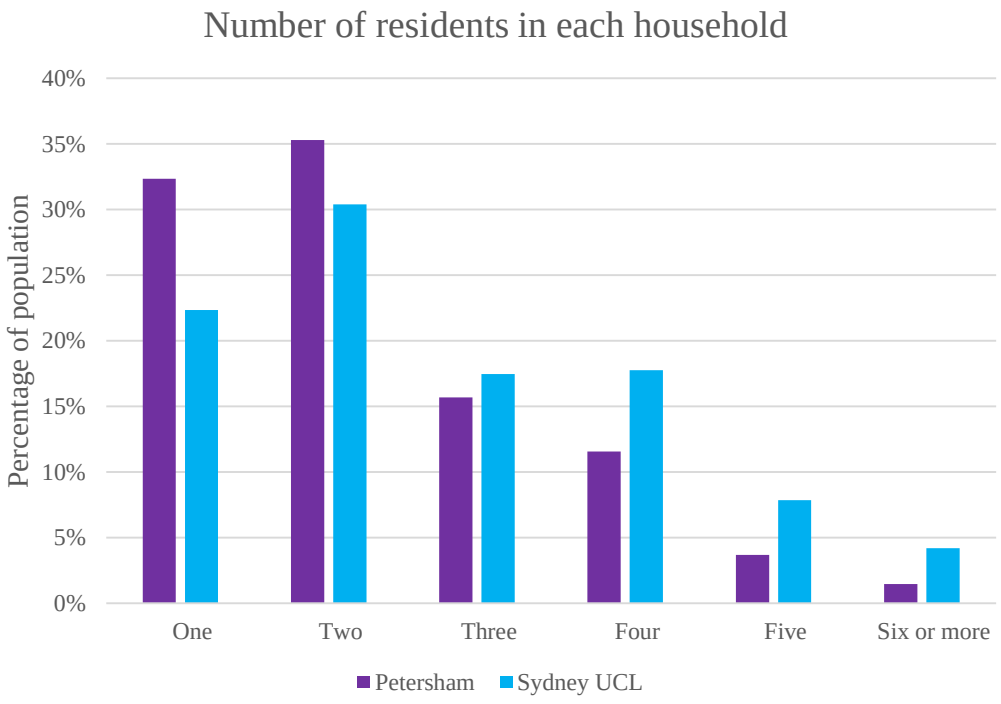


Figure 4: Total number of residents by household size for Petersham and the Sydney Urban Centre/Locality (UCL)

(Source: 2011 Census Data)

4.2.2 Age profiles

In the suburb of Petersham, the 2011 Census indicates 94% of residents in the workforce, over the age of fifteen are employed. This accounts for a total of 4,273 persons. The employment rate is similar compared to the surveyed 94% across the Sydney Urban Centre/Locality (UCL). A large majority of the workforce are employed as professionals, managers and administrative workers. This data correlates to the fact that a majority of the employees in Petersham work in the Sydney CBD, which would likely involve of working in an office.

The age profile of Petersham compared to that of the Sydney Urban Centre/Locality (UCL) is illustrated in Figure 5. 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.

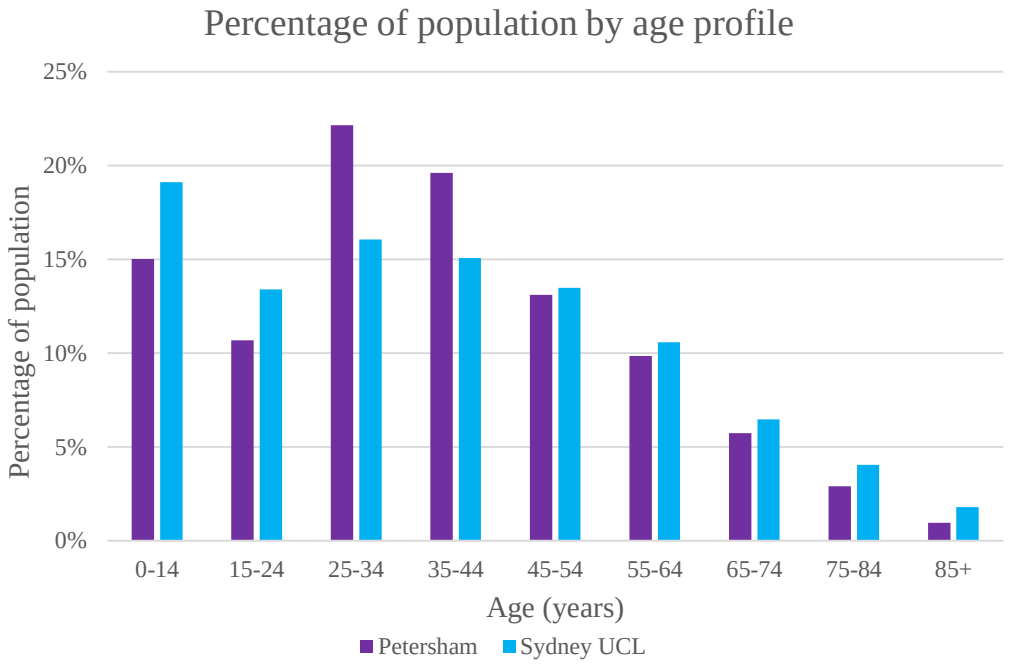


Figure 5: Age Profile of Residents in Petersham and Sydney UCL

(Source: 2011 Census Data)

4.3 Vehicle Ownership

Car ownership in the Petersham area has increased over the past ten years - from 1.03 vehicles per dwelling in 2001 to 1.10 in 2011 (7% increase). This rate of increase is above the Sydney average over the past ten years. Despite the increase over the years, car ownership rates per dwelling in Petersham is still well below that of the Sydney average. This reflects the relatively good public transport availability in the Petersham precinct and proximity of the area to the Sydney CBD. This data is shown in Figure 6.

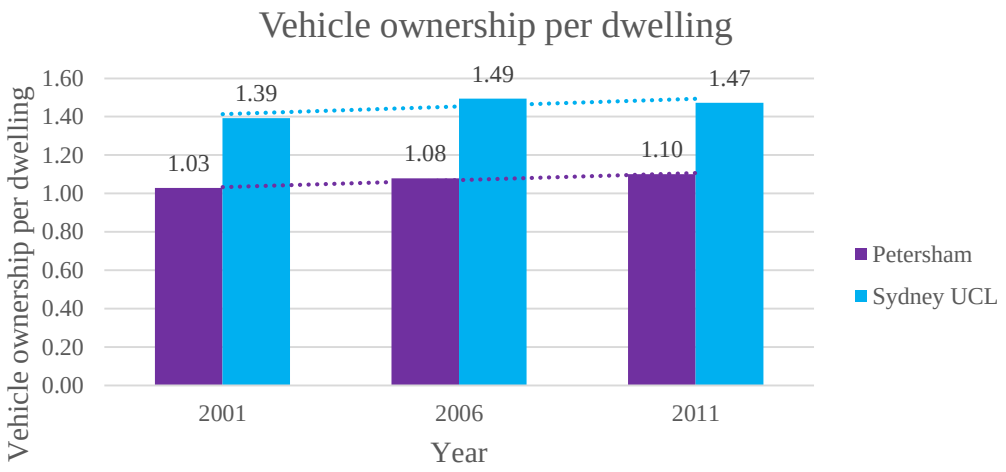


Figure 6: Car ownership per dwelling rates for three census years

2011 Census data shows that 21% of households have no vehicles in comparison to a Sydney average of 13%. In Petersham, 27% of households own more than one vehicle. The comparison of vehicle ownership between Petersham and the Sydney average is shown in Figure 7.

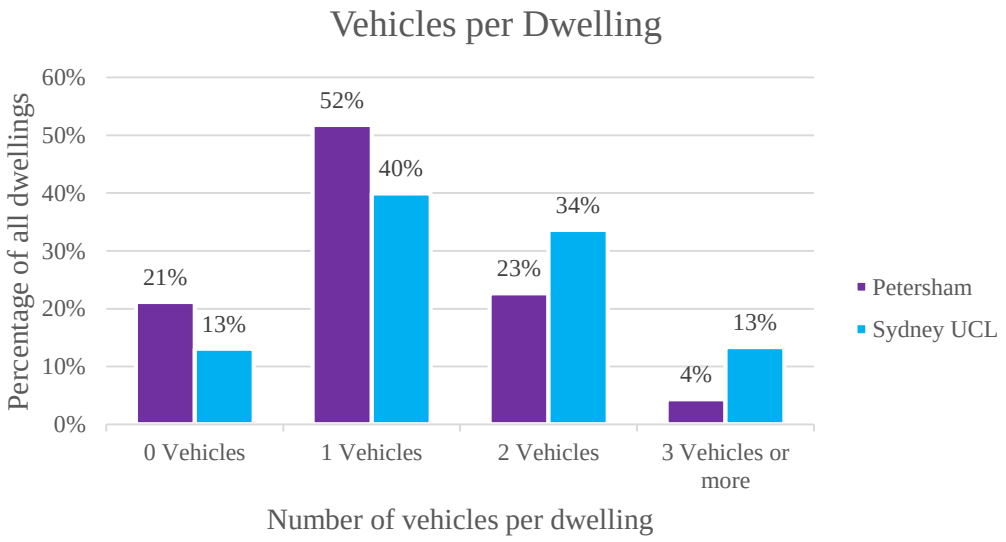


Figure 7: 2011 Comparison of vehicle ownership per dwelling, Petersham and Sydney

(Source: 2011 Census Data)

4.4 Travel patterns

Journey to Work travel characteristics for people working in the Petersham area are presented in Figure 8, over the three census periods. The data shows that approximately 43% of workers drive themselves to work from the area – significantly lower than the Sydney average of 69% in 2011.

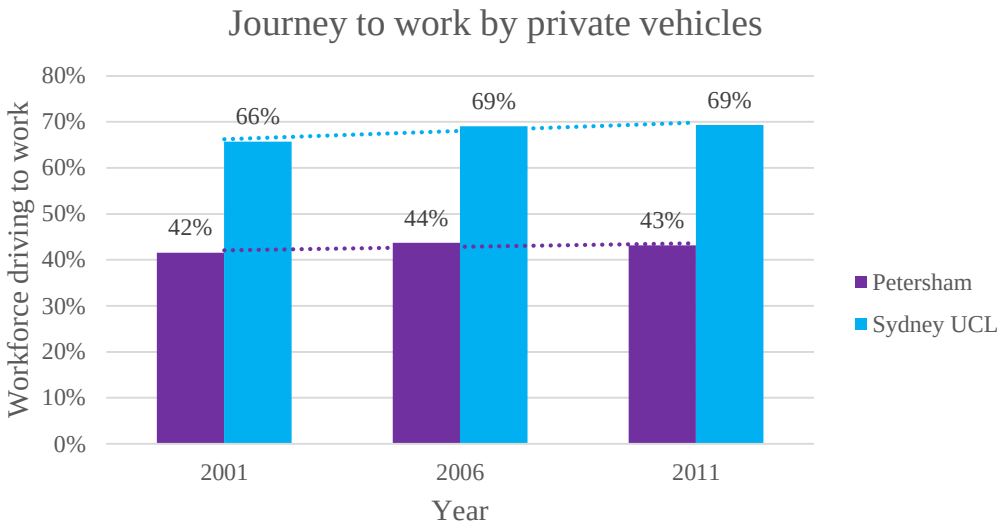


Figure 8: Journey to Work Mode Share

The Bureau of Transport Statistics 2011 approximates 4,494 journey to work trips destined to the Petersham precinct, and 10,993 trips originating. The origin and destination of the trips are summarised based on a spatial aggregation of Australia, a SA3 Level[1]

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

- Marrickville (16%)
- Canterbury (13%)
- Strathfield (12%)

This indicates that a high proportion of private vehicle users who work in the study area, live locally in Marrickville or the nearby Canterbury area.

The key trend to emerge from the 2011 Census data is the decreasing usage of private vehicle usage for work, despite the increasing level of private vehicle ownership (as shown in Figure 6). Since 2006, the level of car usage for work has been steadily decreasing – with these journeys replaced with public transport, walking and cycling trips.

[1] http://visual.bts.nsw.gov.au/jtwbasic/#300,301,302,304,306,320,321,323,324,942

4.5 Parking Characteristics

A resident parking scheme is in place within the Petersham area (M11) on Wardell Road, within the study area. This has been implemented on one side of the road only where parking is time restricted for 1 hour with permit holders excepted. Permit parking areas in the Petersham area is shown in Figure 9.

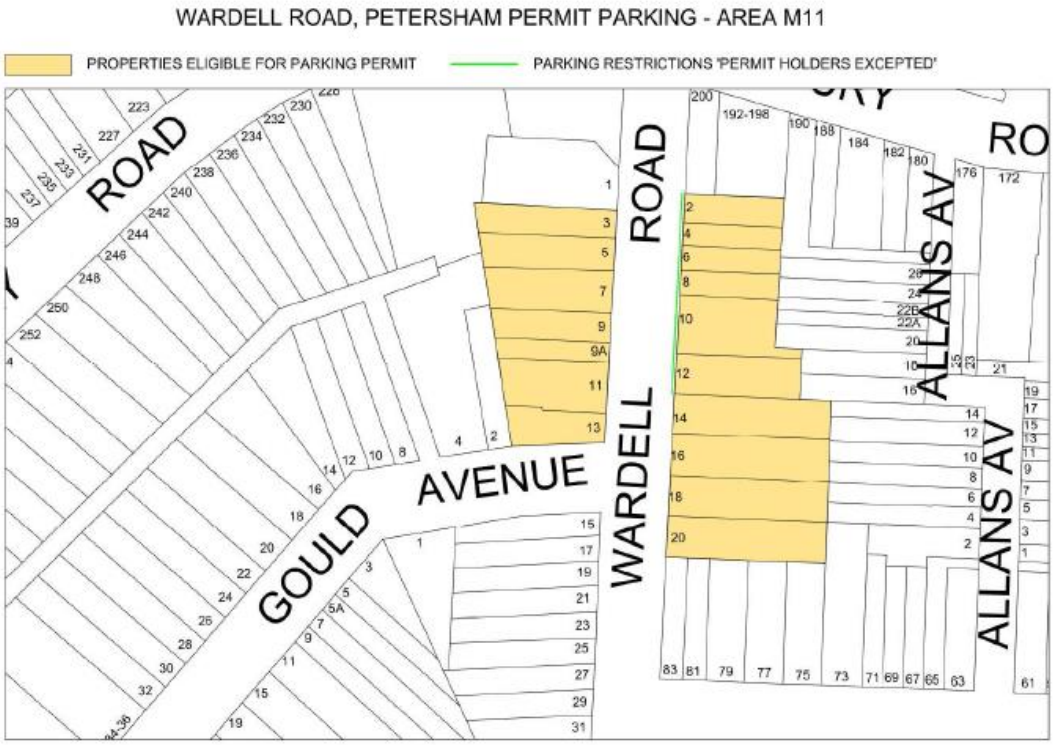


Figure 9: Petersham permit parking Area M8

(Source: Marrickville Council)

Standard parking restrictions in the area are as follows:

- 2P 8.30am–6pm Mon-Fri, Permit Holders Excepted Area M11

Residents may apply for resident parking permit to park in the time restricted areas. Residents in the area are eligible to apply for a maximum number of two permits for any one household, subject to that number being reduced by one permit for each parking space available, or which may reasonably be provided, off-street.

4.6 Road hierarchy

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

New Canterbury Road, which runs parallel to the railway line within the study area. The road provides access to various small retail spaces with limited time restricted parking enforced on either sides of the road. Clearways and no stopping zones are enforced at certain sections on both sides of the road.

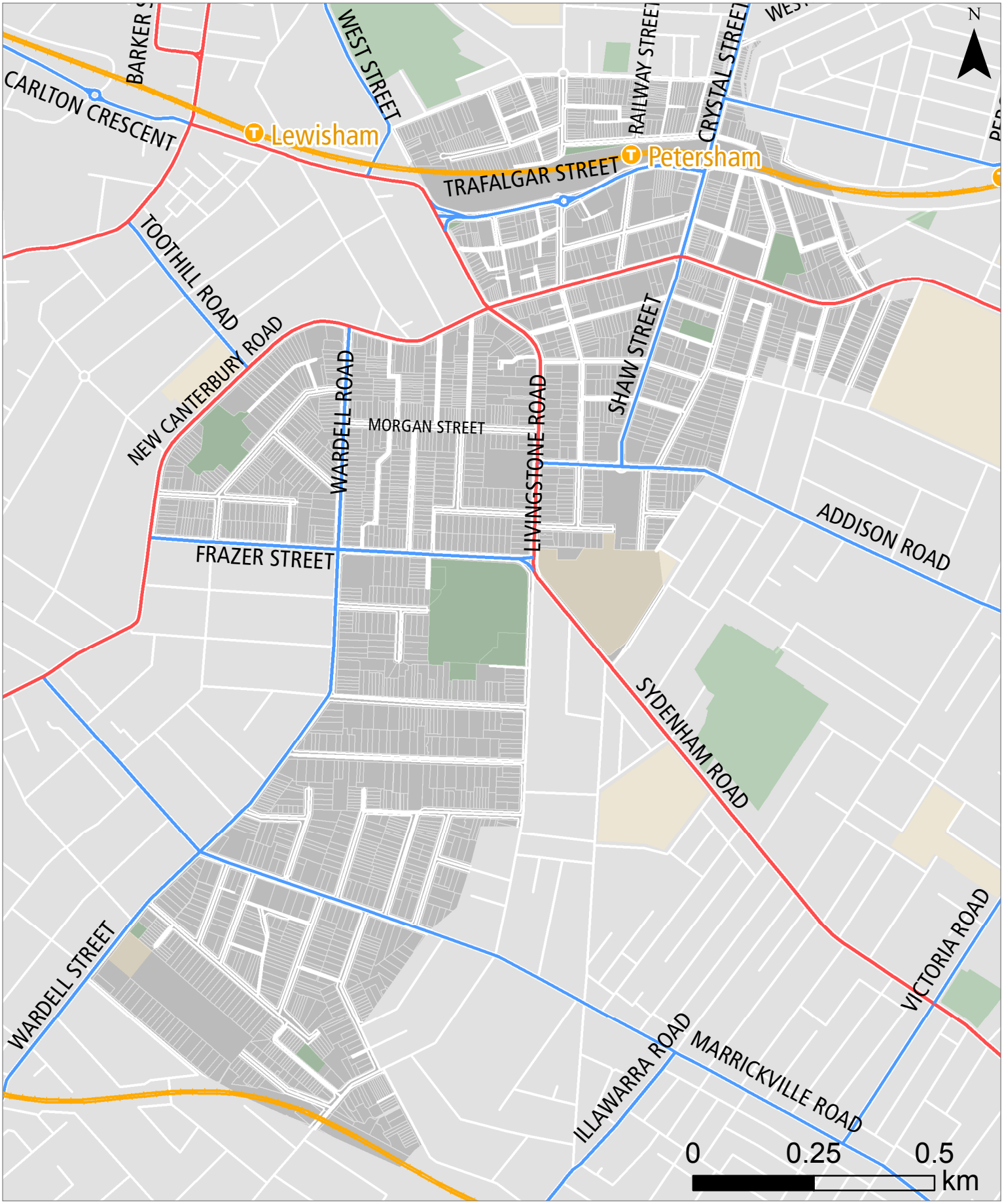
Livingstone Road and Gordon Street provides north-south access within the study area. It generally provides access to low density residential dwellings.

Regional Roads

Regional roads in the study area include Trafalgar Street, Frazer Street, Marrickville Road and Wardell Road.

Local Roads

The remaining roads within the corridor are local roads.



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Petersham Parking Study - Figure 10

4.7 Public transport

4.7.1 Trains

The Petersham study area is served by Petersham Railway. Petersham Station is served by the 'T2 Inner West and South' train lines. Petersham Station has a train frequency of approximately every 15 minutes during both off-peak and peak periods.

4.7.2 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 4 below.

Table 4: Sydney Buses - Bus Routes on Parramatta Road, Petersham

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

4.7.3 Light Rail

The Petersham study area relative to the Inner West Light Rail is shown in Figure 11. Light rail stations can be found some 200 metres from the western border of the study area.

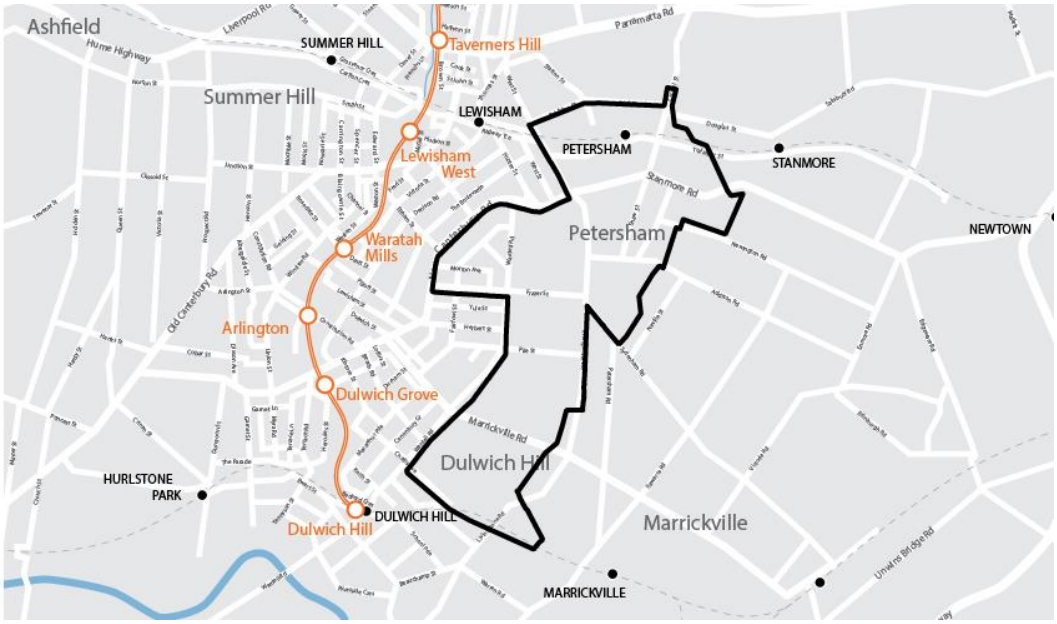


Figure 11: Sydney Light Rail Network

(Source: TfNSW Inner West Light Rail - Street)

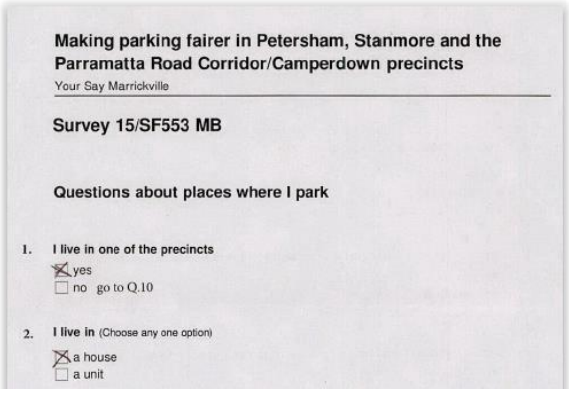
5 Community and Stakeholder Consultations

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 both consultation periods 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 190 responses were received.

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



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

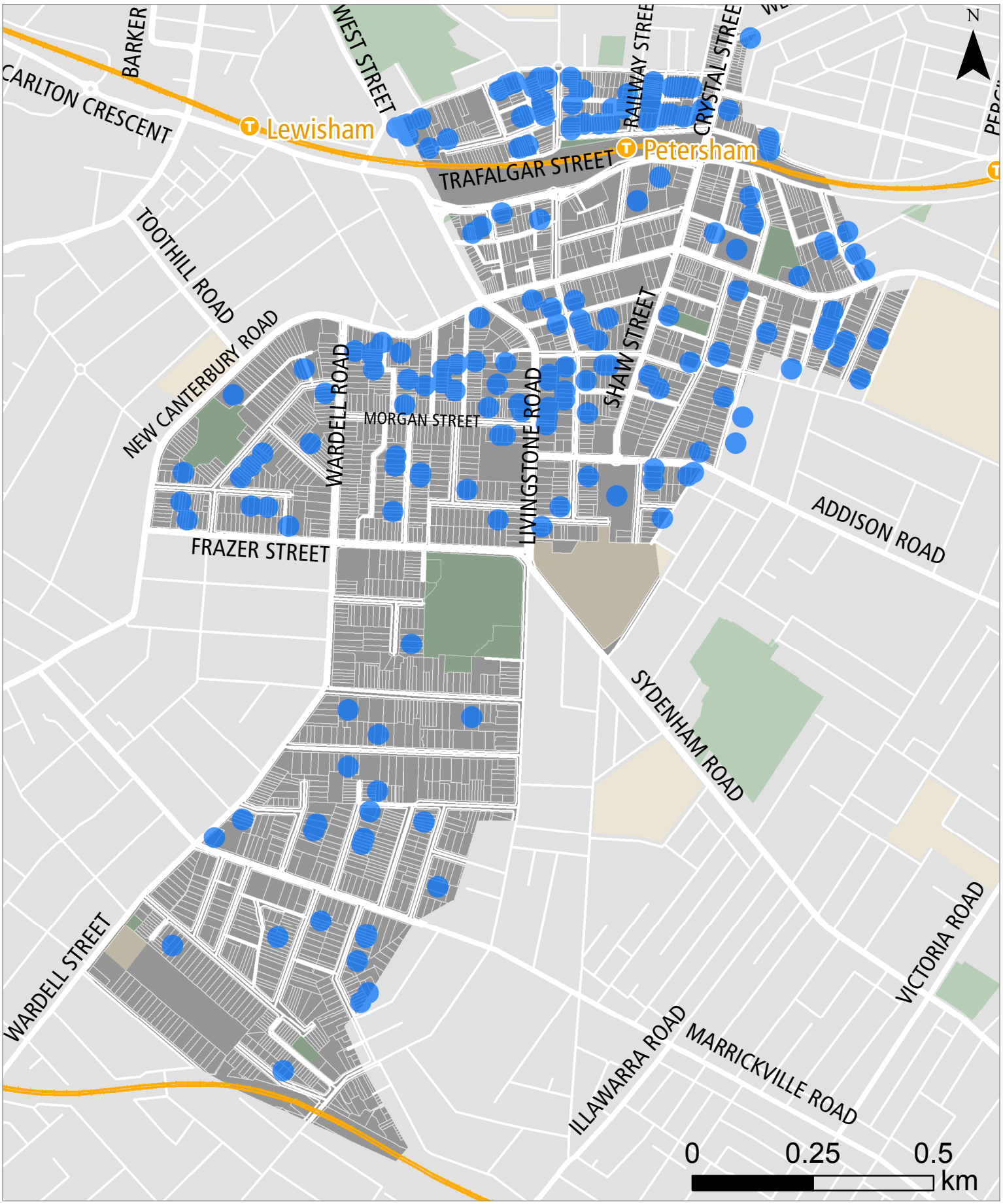
2. **I live in** (Choose any one option)
   - ☒ a house
   - ☐ a unit

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 and enforcement.
- A majority (71%) of the residents are able to park within of their residence, while the significant majority (97%) 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
- 9% of the respondents (focused at the northern end of the study area near Petersham Station) had complaints about people parking near train stations on a long term basis, making it harder for residents to find a place to park. Many of these responses raised concerns about trailers being parked along the streets which took up parking spaces
- 9% of the respondents had complaints about traffic and parking demand generated from the nearby schools such as Newington College, especially during sport events held by the school on weekends.
- Spillover parking adjacent to New Canterbury Road was a common issue raised during the consultation period. This is both an issue during the day and evening, with the restaurant strip generating demand for parking on weekends.

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



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Petersham Parking Study - Figure 12

5.2 Parking for residents

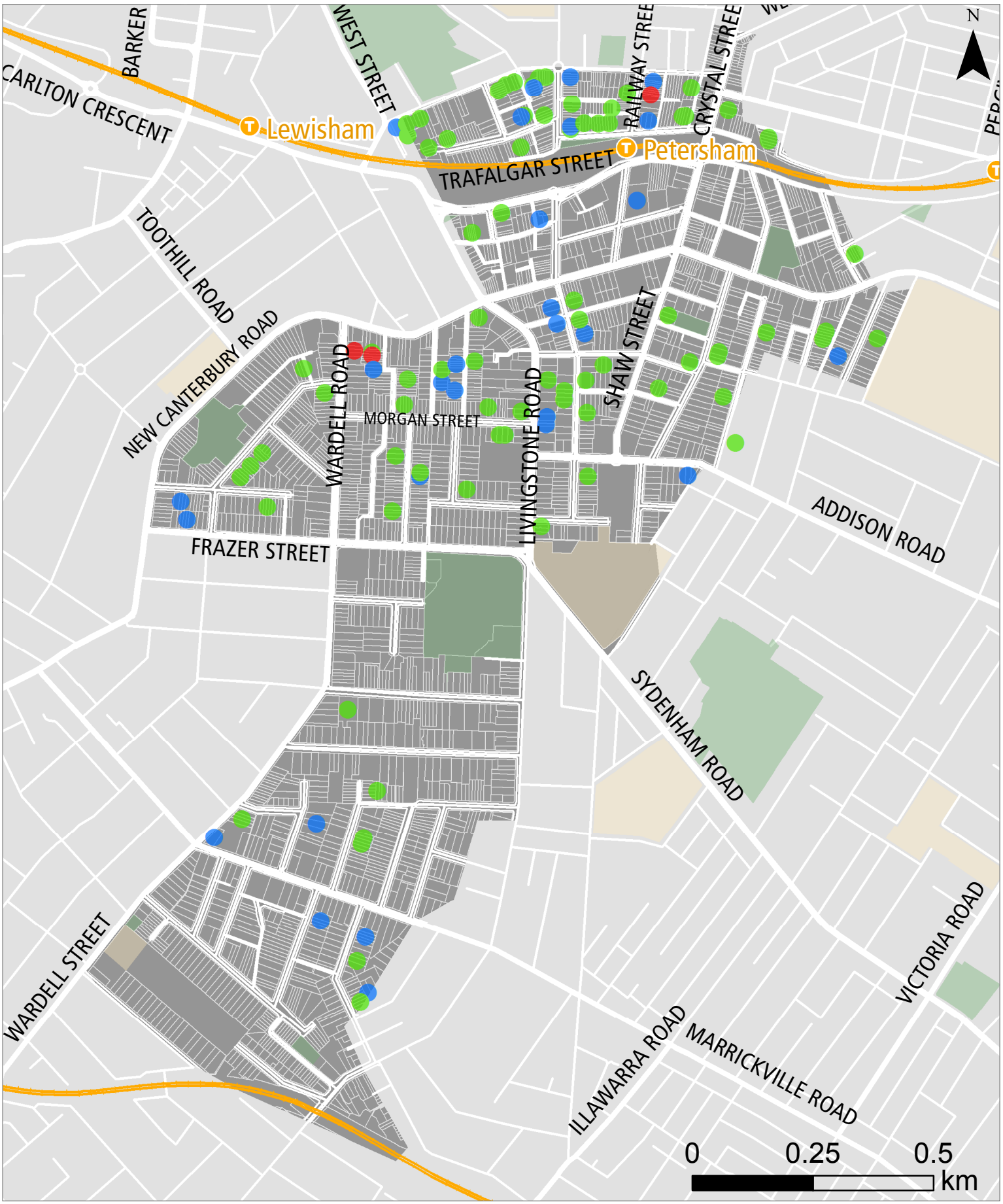
5.2.1 Parking distances

Survey results indicate that a majority of the respondents (71%) find parking spaces within one block of their place of residence, however others (26%) park some 100 metres to 200 metres away. A small proportion of residents (3%) parked more than 200 metres from their residence. A total of 167 residents responded to this question with the results shown in Figure 13.

Areas where respondents noted it was difficult to find a parking space close to their residence/place of employment were to the north of Petersham Station (specifically Railway Street) and immediately south of New Canterbury Road. This is reflective of the greater parking demands in these areas generated by commuters and nearby business respectively.

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

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Petersham Parking Study - Figure 14

5.2.2 Off-street parking

60% 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, the 18 respondents indicated that they did not use them, with the most common reasons being:

- They had more than one car
- It was more convenient for them to park along the street

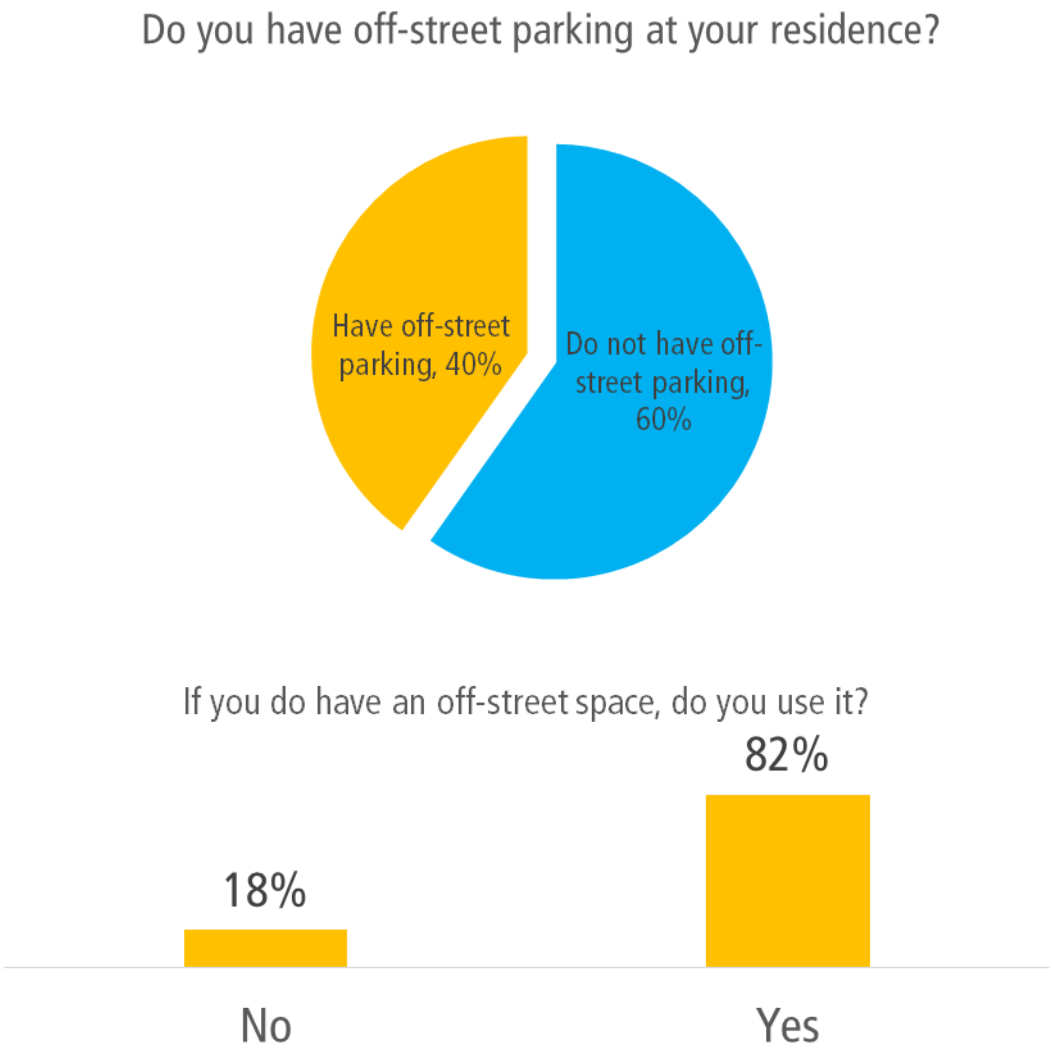


Figure 15: Proportion of residents with off-street parking at their residence

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 and commuters taking up parking spaces, and the lack of time restricted parking enforcement. Respondents also noted that a number of vehicles (including trailers) are left on some streets for long periods of time which restricts available parking opportunities.

Some respondents questioned whether angled parking could be provided (e.g. on Palace Street) on certain streets to increase available capacity.

Concern was also raised around parking availability at the southern end of the precinct on Sundays due to parking demands generated by the Church on Livingstone Road.

Residents living along Railway Street and Trafalgar Street at the northern end of the study area, as well as those immediately south of New Canterbury Road (e.g. Morgan Street), noted issues with local employees and/or commuters taking up parking spaces. Insufficient monitoring and enforcement of parking restrictions was a common response, particularly to the north of the railway station.

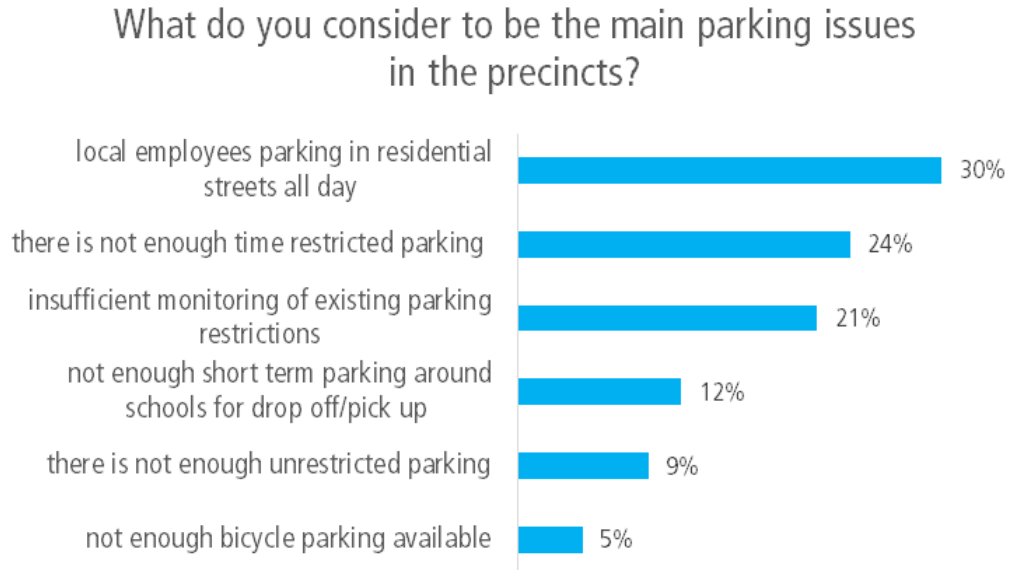
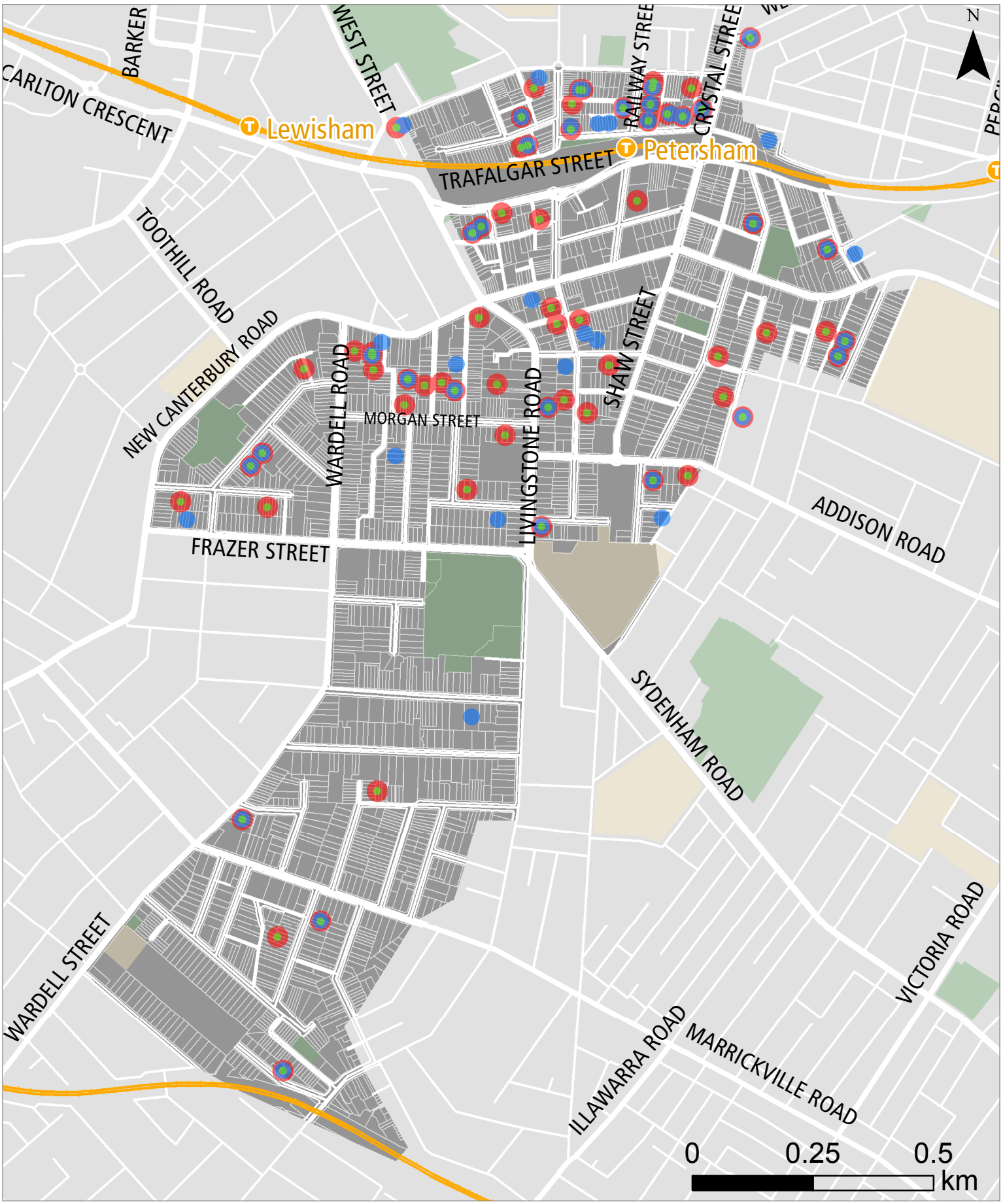


Figure 16: Summary of key issues – Stanmore precinct

The locations of the responses are illustrated in Figure 17.



ARUP

Petersham Parking Study - Figure 17

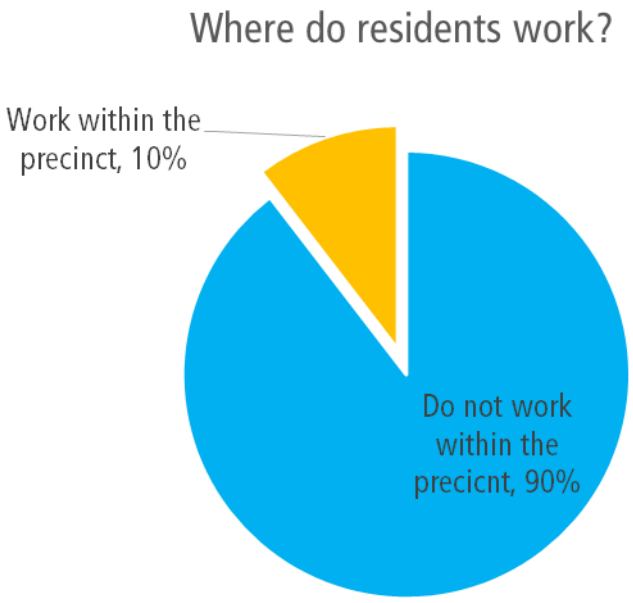
5.2.4 Journey to work

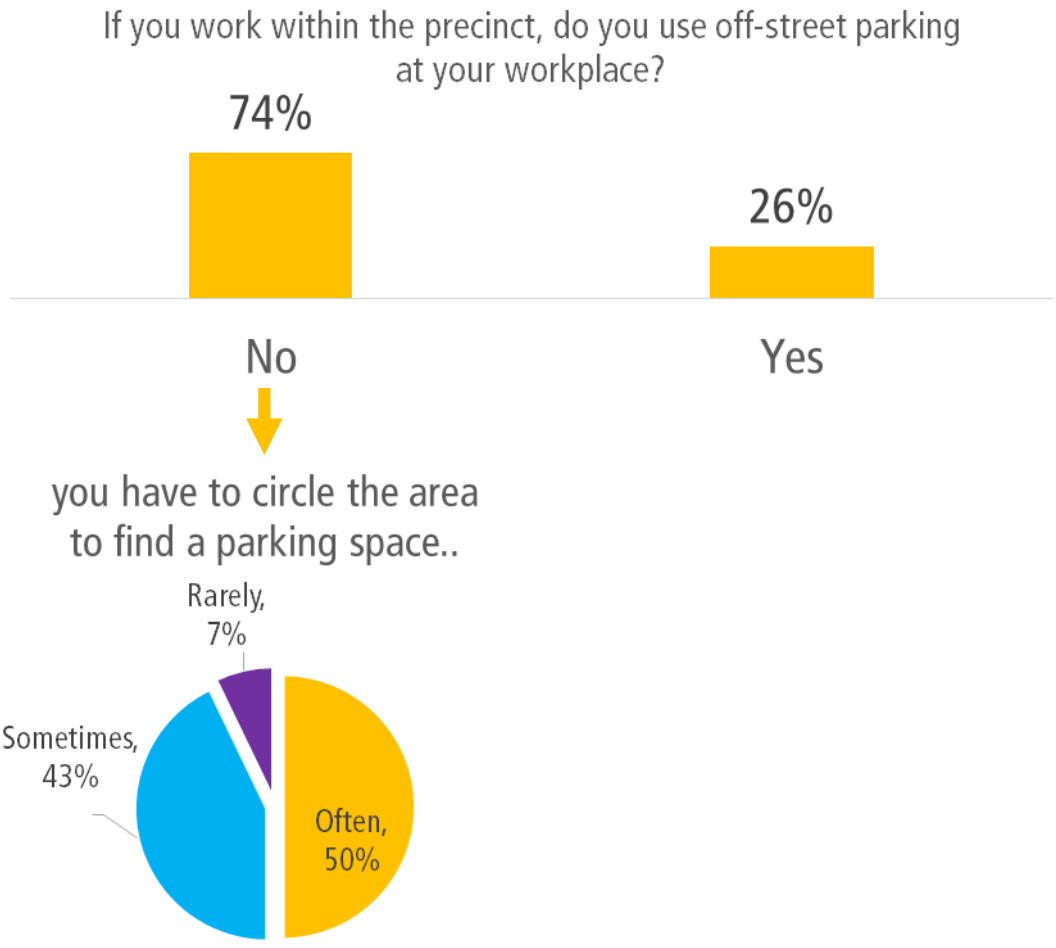
The questionnaire survey included questions to gain an understanding of how residents got to work, and any difficulties they might face with parking issues. Residents who do not have off-street parking at their workplace within Marrickville, generally find it difficult to park on-street.

Of the 182 people who responded to this question, 19 (10%) worked within the precinct of the Marrickville LGA.

A majority of the residents who worked locally did not have off street parking facilities at their workplace. Of these, only 7% find parking spaces at their workplace easily along the streets. 50% indicated that they often had to circle the area to find a parking space.

It was noted that the existing clearway / no stopping restrictions on New Canterbury Road limit short and long term parking opportunities close to the retail area. This was raised as an issue both by businesses (restricting parking opportunities for visitors to the precinct) as well as local residents. There are limited short term parking opportunities at nearby off-street car parking areas (e.g. Fisher Street, Chester Street) due to demand from commuters and Marrickville Council staff.


Where do residents work?
Work within the precinct, 10%
Do not work within the precicnt, 90%


If you work within the precinct, do you use off-street parking at your workplace?
74%
26%
No
Yes
you have to circle the area to find a parking space..
Rarely, 7%
Sometimes, 43%
Often, 50%

5.2.5 Parking policies

The survey included questions to gain an understanding of how residents felt about the existing parking schemes and what could be done to improve it. When asked which parking policy residents would prefer, the most popular consensus was for a resident parking scheme, with the response rates illustrated in Figure 18. Over 70% of respondents noted they would prefer some type of resident parking scheme.

The greatest demands for the introduction of time restricted parking were to the north of the railway station and in the pocked of streets bounded by New Canterbury Road, Wardell Road, Morgan Street and Livingston Road. This is a result of the demands generated by commuters near Petersham Station, and employees and visitors of the New Canterbury Road retail strip.

At the southern end of the study area, the preference of respondents was generally for no restricted on-street parking.

The location of these responses is illustrated in a map, in Figure 19.

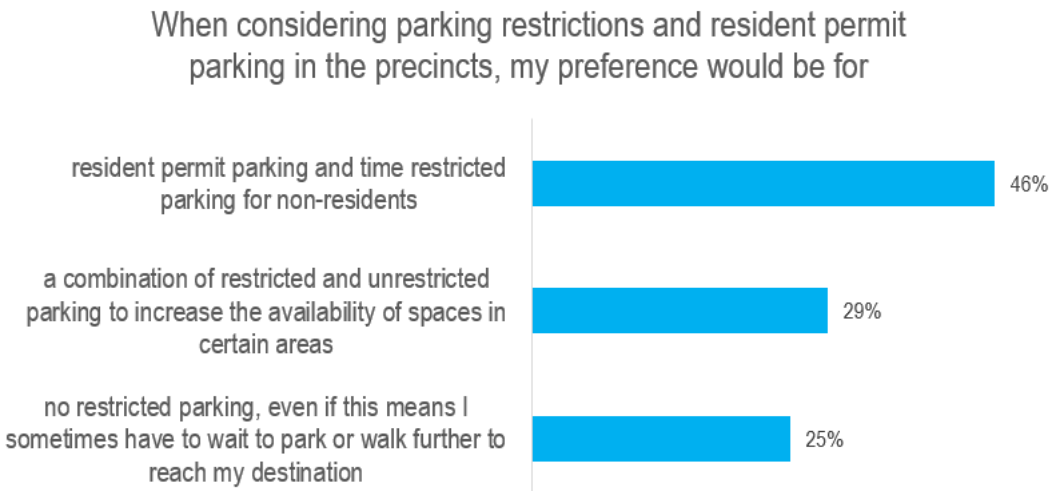
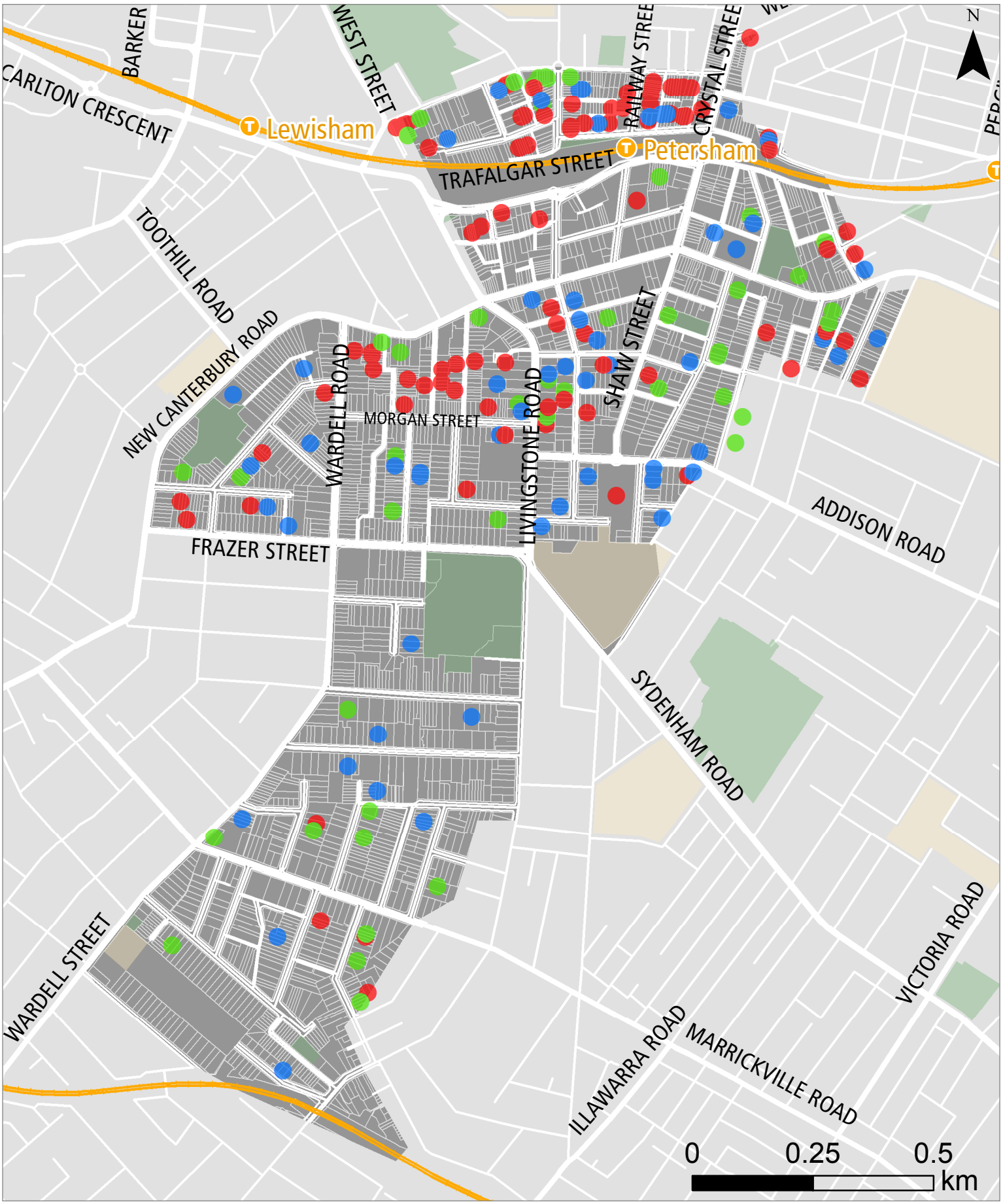


Figure 18: Preference for a parking scheme



Preference for parking permits and restrictions

- resident permit parking scheme
- a combination of restricted and unrestricted parking
- no restricted parking

ARUP

Petersham Parking Study - Figure 19

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.

- Weekend – Saturday 10am to 6pm and Sunday 8am to 3pm

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. The surveys would provide an indication of the busiest streets during these periods, and provide guidance towards implementing a fair and reasonable strategy.

6.2 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.

6.3 Areas analysed

To provide a more detailed assessment of parking requirements across the precinct, the study area has been segregated into three distinct areas as illustrated in Figure 20 below.

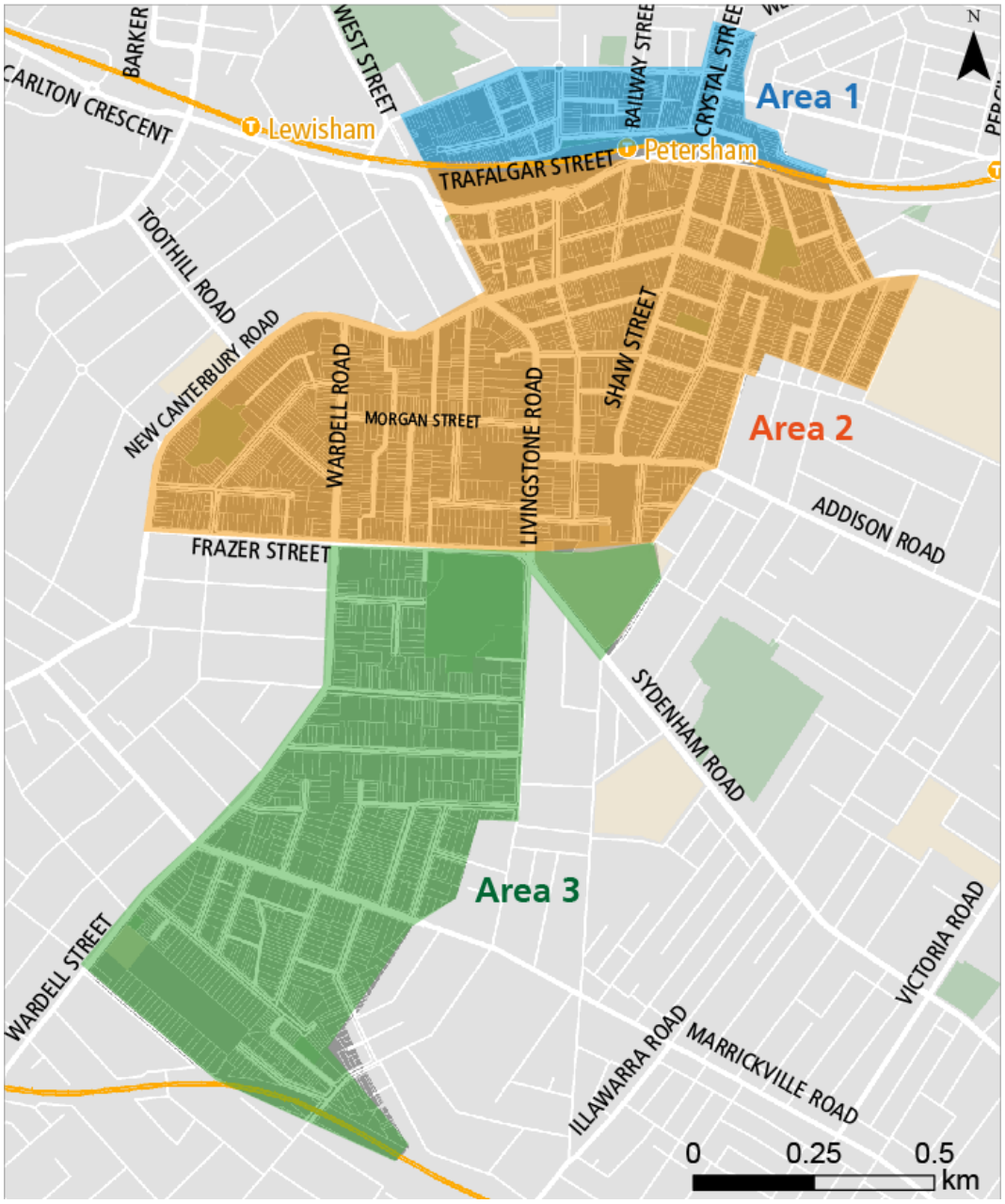


Figure 20: Areas analysed within Petersham precinct

6.4 Parking occupancy

6.4.1 Area 1

Area 1 is located north of the railway line and is bounded by West Street, Brighton Street and Crystal Street. It predominantly consists of low density residential dwellings, with some retail uses along Brighton Street and Crystal Street. Parking around the area is predominantly used for residents and commuters using the Petersham train station.

The survey recorded 375 on-street parking spaces across the study area. Private commercial car parks were not considered as part of the study area.

A summary of the on-street parking supply of the study area surveyed is summarised in Table 5.

Table 5: Summary of On-Street Parking

Restriction	Total Supply	Proportion
Unrestricted	326	86.9%
Disabled	2	0.5%
M5 Permit Holders	44	11.7%
No Parking at certain times	3	0.8%
Total	**375**	**100.0%**

Permit holder areas

Areas with time restricted parking (M5 permit holders excepted) – i.e. a resident parking scheme (RPS), were investigated. The RPS in area 1 is confined to the northern side of Terminus Street which contains 44 spaces. The average occupancy profile of these spaces is shown in Figure 21.

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.

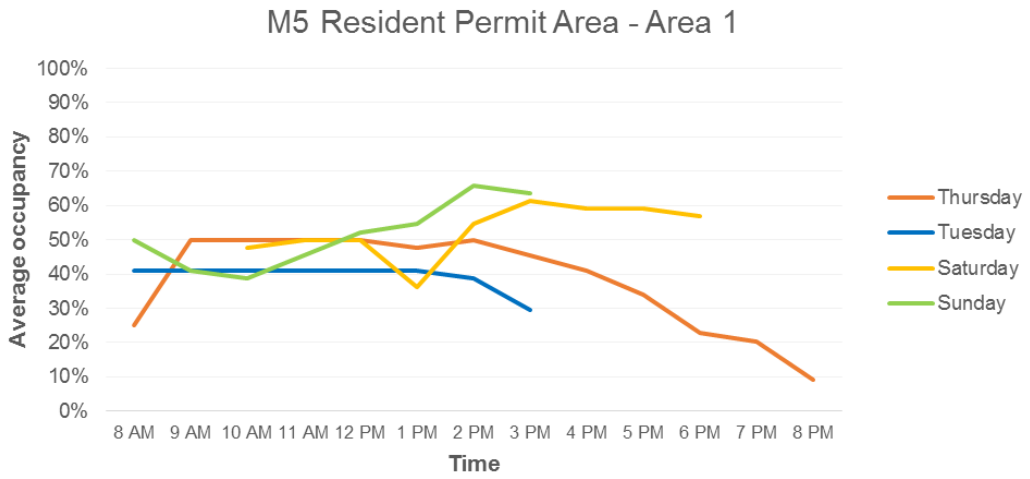


Figure 21: M5 permit holder areas - Average hourly occupancy

Parking occupancy rates over weekends were found to be able to accommodate additional capacity, with peak occupancy rates of 70%.

Unrestricted parking areas

Unrestricted parking across area 1 have a relatively flat occupancy profile throughout the day, indicating that these spaces are used for long term parking. Occupancy rates, shown in Figure 22 are higher during weekends, with a peak of around 60% at 8am. An average occupancy of 50% is observed during weekdays, this gradually decreases after 5pm to 20%, and is indicative of employees leaving the study area. This suggests that the remaining 20% of utilised spaces are occupied by residents or long term parkers.

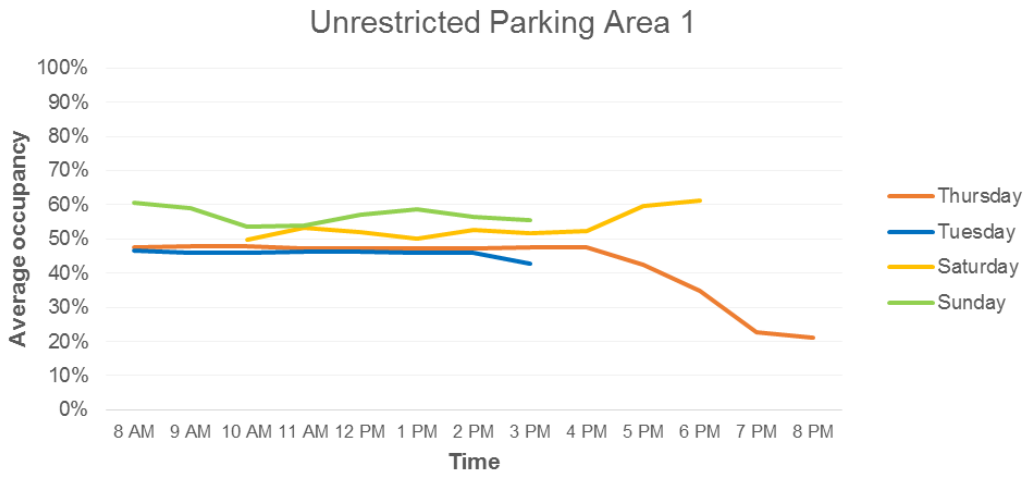


Figure 22: Area 1 unrestricted parking - Average hourly occupancy

6.4.2 Area 2

Area 2 is located south of the railway line and is bounded by New Canterbury Road in the west, Frazer Street in the south, and College Lane in the east. High density residential dwellings are located just south of the train station, with a range of retail shops found on either side of New Canterbury Road. Parking around the area is predominantly used by residents, commuters using the Petersham train station and visitors to the retail shops.

The survey recorded 2,739 on-street parking spaces across the study area. Private commercial car parks were not considered as part of the study area.

A summary of the on-street parking supply of the study area surveyed is summarised in Table 5.

Table 6: Summary of On-Street Parking

Restriction	Total Supply	Proportion
P 15 min	9	0.3%
1/2P	11	0.4%
1P	105	3.8%
2P	12	0.4%
Unrestricted	2,480	90.5%
Disabled	21	0.8%
Service vehicle zones	2	0.1%
M11 Permit Holders	10	0.4%
No Parking at certain times	89	3.2%
Total	**2,739**	**100.0%**

Permit holder areas

Areas with time restricted parking (M11 permit holders excepted) – i.e. a resident parking scheme (RPS), were investigated. Existing time restrictions in the M11 area include:

- 2P 8.30am-6pm Mon-Fri, M11 permit holders excepted

The RPS in area 2 is confined to the eastern side of Wardell Road south of Canterbury Road, which contains 10 spaces. The average occupancy profile of these spaces is shown in Figure 23. Data shows that occupancy rates are generally higher at 12pm, suggesting that these spaces are used for short term parking, from patrons to shops along New Canterbury road. Toward the evening, these spaces are fully utilised by residents.

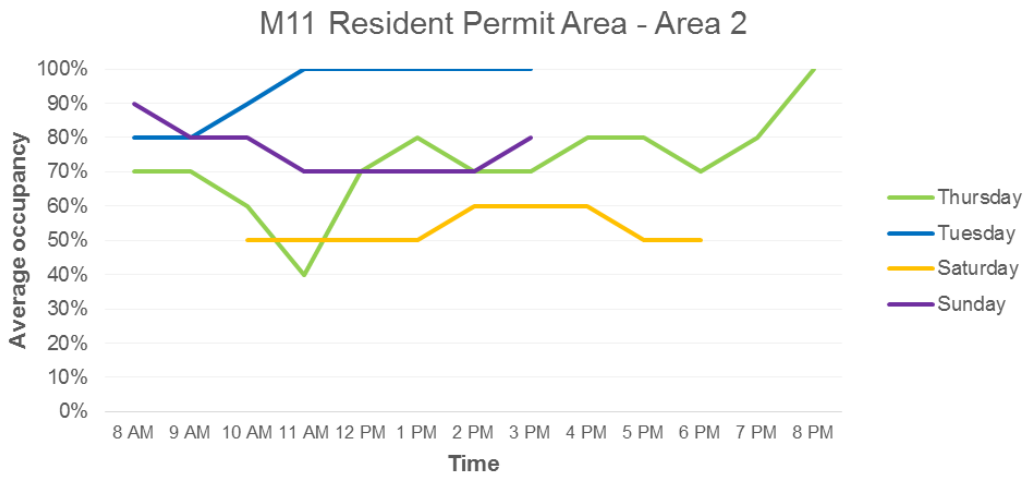


Figure 23: M11 permit holder areas - Average hourly occupancy

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 24. These areas have typical parking restrictions enforced during the following periods:

- 9:00am-5:00pm (Mon-Fri)
- 8:30am-6pm (Mon-Fri)
- 8:30am-12:30pm (Sat).

The analysis was based on a total of 137 available short term parking spaces. The occupancy rates for short term parking is higher during weekends, with a peak occupancy rate of around 60% occurring between 5pm to 6pm. The occupancy rate during weekdays are relatively constant, peaking at 35%.

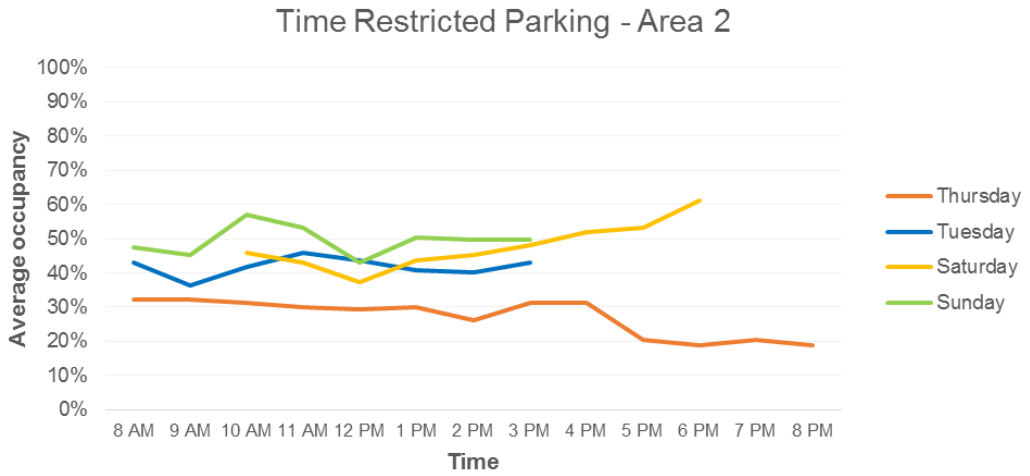


Figure 24: Area 2 short term parking - Average hourly occupancy

Unrestricted parking areas

Unrestricted parking across Area 2 have a relatively flat occupancy profile throughout the day, indicating that these spaces are used for long term parking. Occupancy rates, shown in Figure 22 are generally similar during weekdays and weekends, with an average peak occupancy rate of 60%.

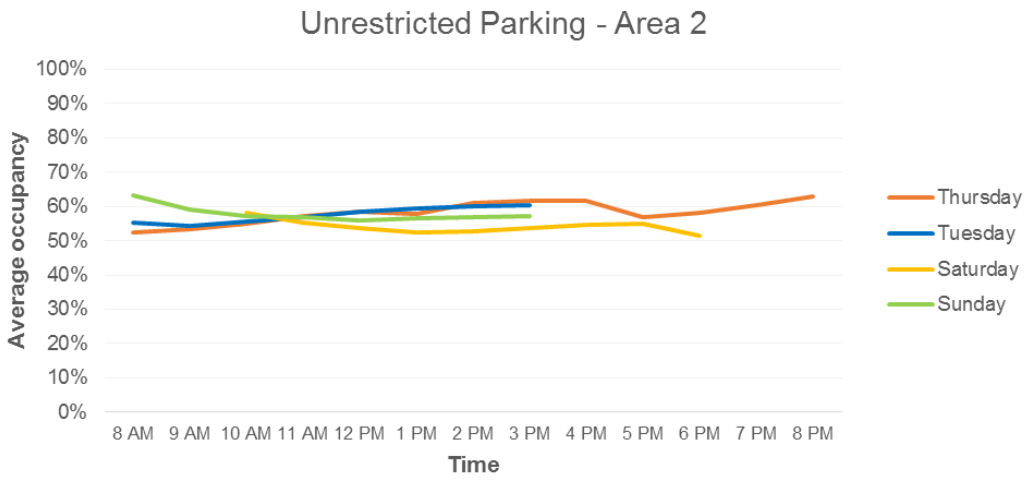


Figure 25: Area 2 unrestricted parking - Average hourly occupancy

6.4.3 Area 3

Area 3 is located south of the railway line and is bounded by Frazer Street, Wardell Road, Challis Avenue and Livingstone Road. It predominantly consists of low and medium density residential dwellings and Marickville Park. Limited retail are included with the study area of Area 3. In general, the parking occupancy data and community feedback indicates that parking demand within this section is not an issue.

The survey recorded 1,608 on-street parking spaces across the study area, most of which consist of unrestricted parking spaces. Private commercial car parks were not considered as part of the study area.

A summary of the on-street parking supply of the study area surveyed is summarised in Table 5.

Table 7: Summary of On-Street Parking

Restriction	Total Supply	Proportion
Unrestricted	1,574	97.9%
1/2P	2	0.1%
Bus zone	12	0.7%
Disabled	8	0.5%
Service vehicle zones	3	0.2%
No Parking at certain times	9	0.6%
Total	**1,608**	**100.0%**

Unrestricted parking areas

Unrestricted parking across Area 3 have a relatively flat occupancy profile throughout the day, shown in Figure 22, indicating that these spaces are used for long term parking. Unlike the other areas previously investigated, the profile does not decrease during the 5pm period. This suggests that area 3 is not used commuters or employees, due to its land uses and proximity from the train stations. Average occupancy rates were found to be static at around 40% during weekdays.

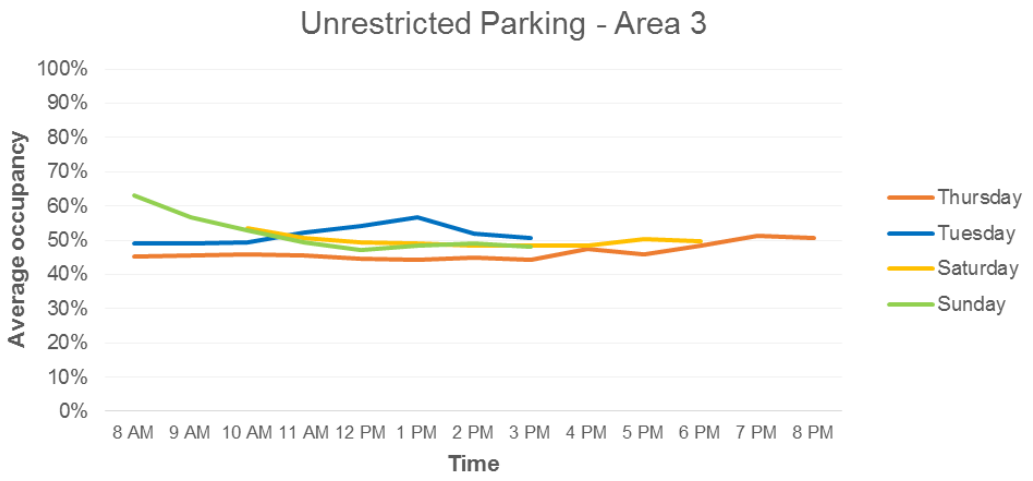


Figure 26: Unrestricted parking - Average hourly occupancy

6.5 Parking occupancy maps

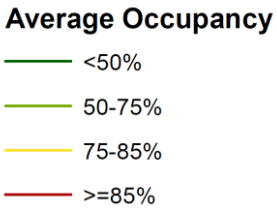
Parking occupancy maps, which are presented in section 6.5.6, have been produced based on the survey data gathered, to gain an accurate understanding of the occupancy in each street. Together with the feedback from stakeholder surveys, busier streets were identified to be considered in guiding policy making.

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



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

- Brighton Street
- Searl Street
- Chester Street
- Audley 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:

- Brighton Street
- Fishers Reserve
- Searl Street
- Audley Street
- Trafalgar Street
- Nelson Place
- Chester Street
- Albert Street
- Middleton Street
- Robert Street
- Marrickville Road

6.5.4 Average hourly occupancy

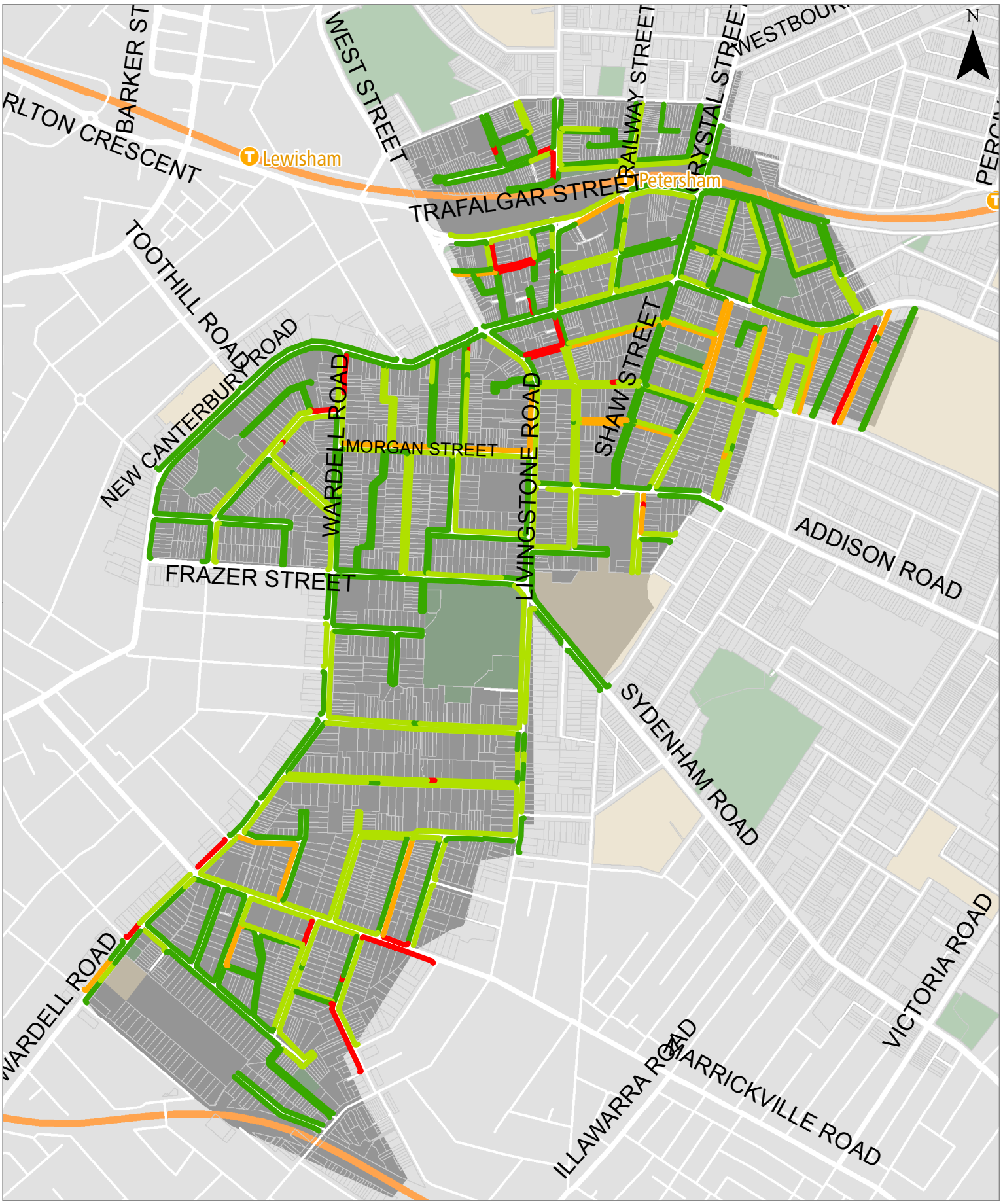
Hourly occupancy rates throughout the survey periods are shown in Appendix A.

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 New Canterbury road tended to get busier at around 6pm, likely due to visitors having dinner at nearby shops. Occupancy was the lowest at 8pm, with the following streets remaining at capacity between 8pm to 9pm:

- Audley Street
- Chester Street
- James Street
- Belgrave Street
- Miller Street
- Newington Road
- John Street
- Robert Street
- Marrickville Road

6.5.6 Occupancy map catalogue

Average Occupancy



0 250 500 Meters

Tuesday Average Occupancy

Average Occupancy

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

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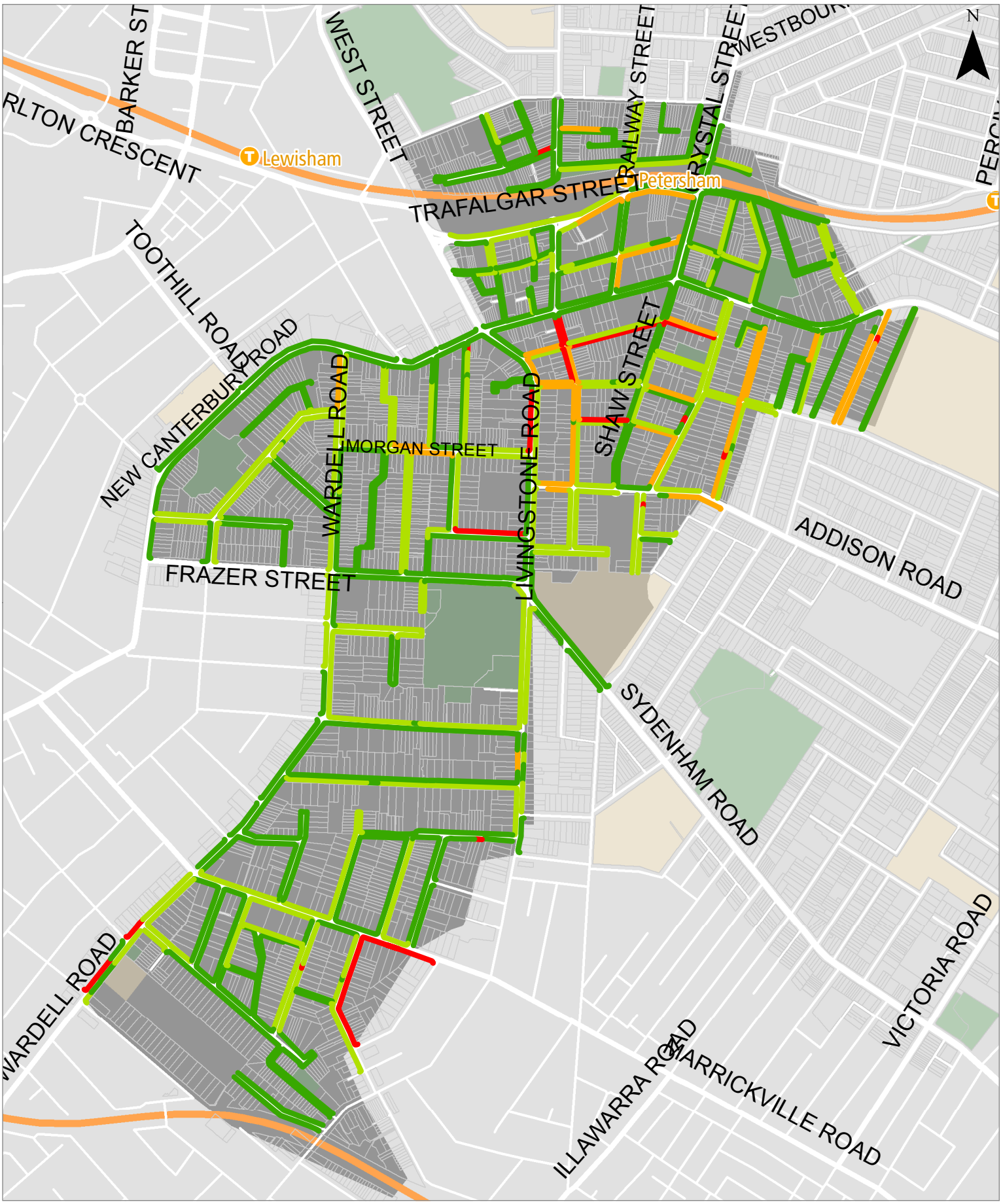
Petersham Parking Study - Figure 27



0 250 500 Meters

Thursday Average Occupancy

Occupancy

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

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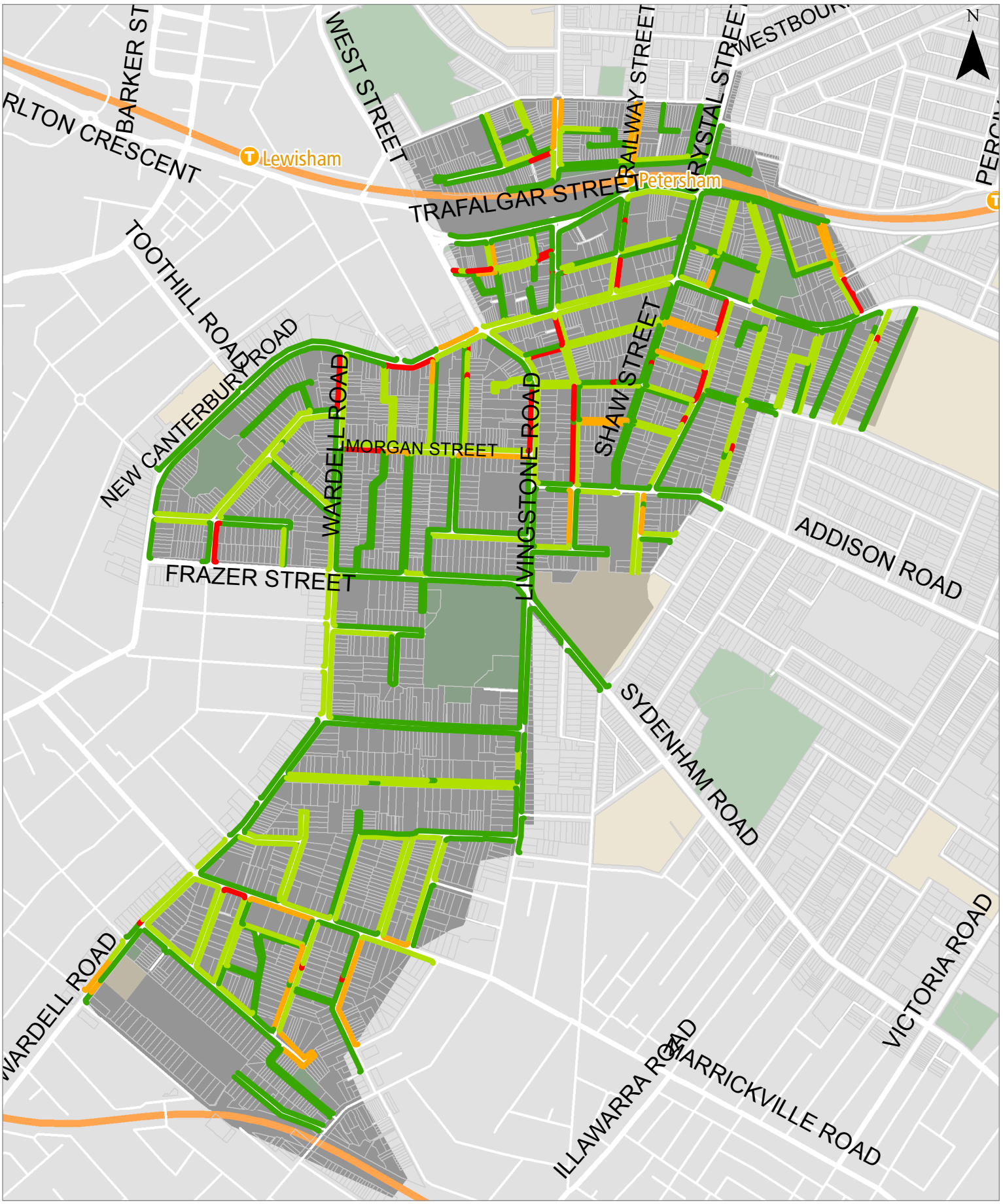
Petersham Parking Study - Figure 28



0 250 500 Meters

Saturday Average Occupancy

Occupancy

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

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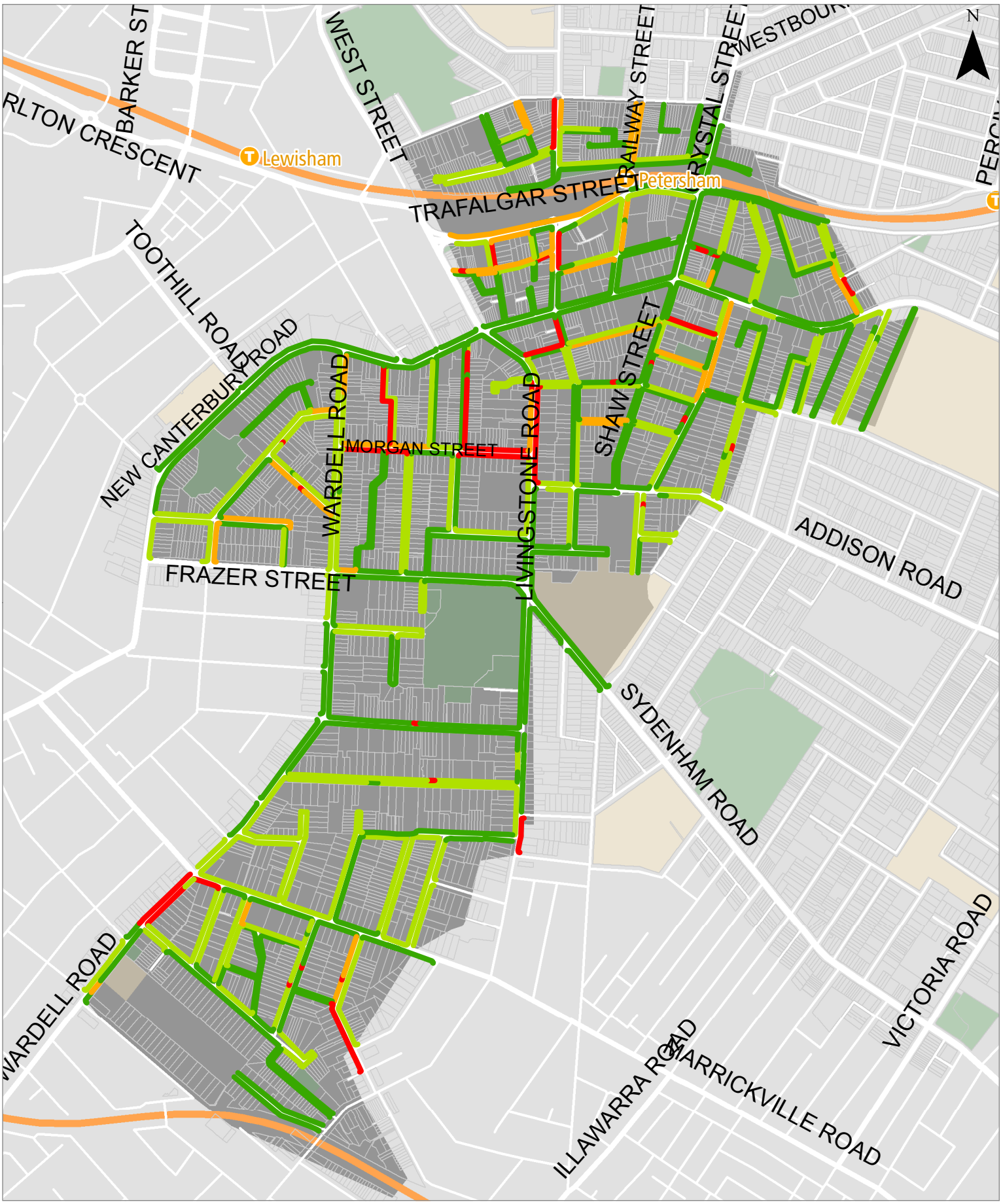
Petersham Parking Study - Figure 29



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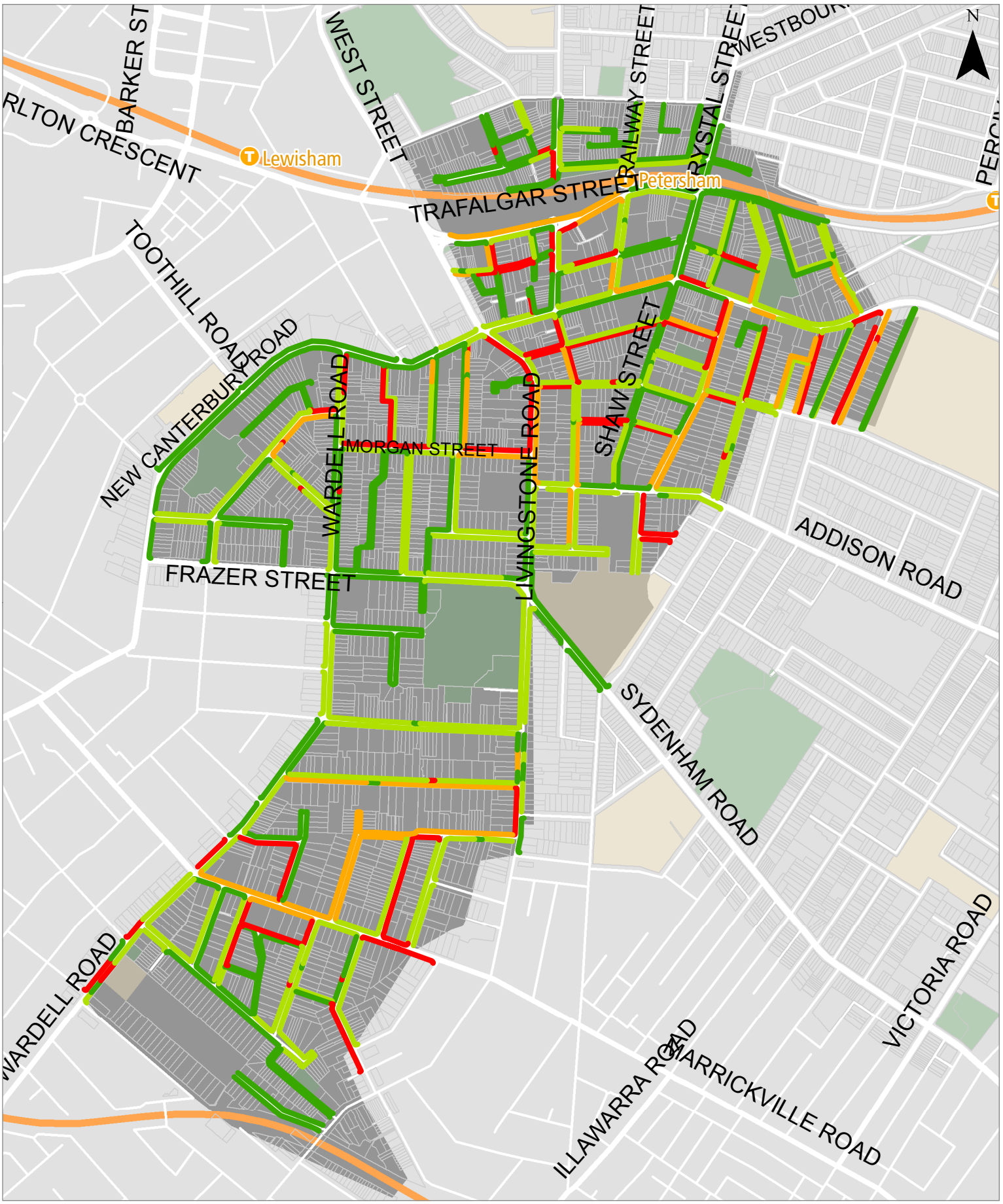
Petersham Parking Study - Figure 30



0 250 500 Meters

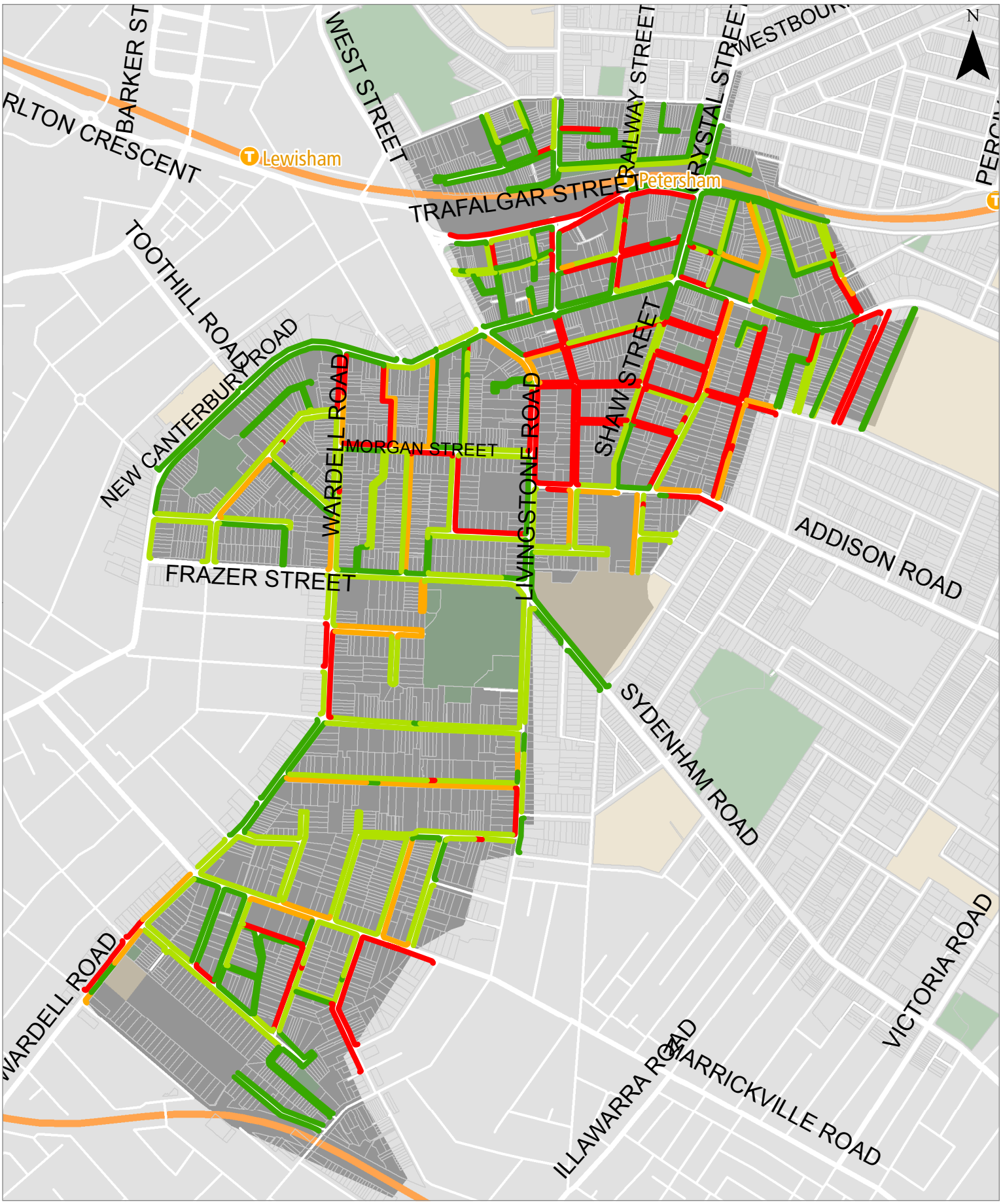
Tuesday Peak Occupancy

Peak Occupancy

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

ARUP

Petersham Parking Study - Figure 31



0 250 500 Meters

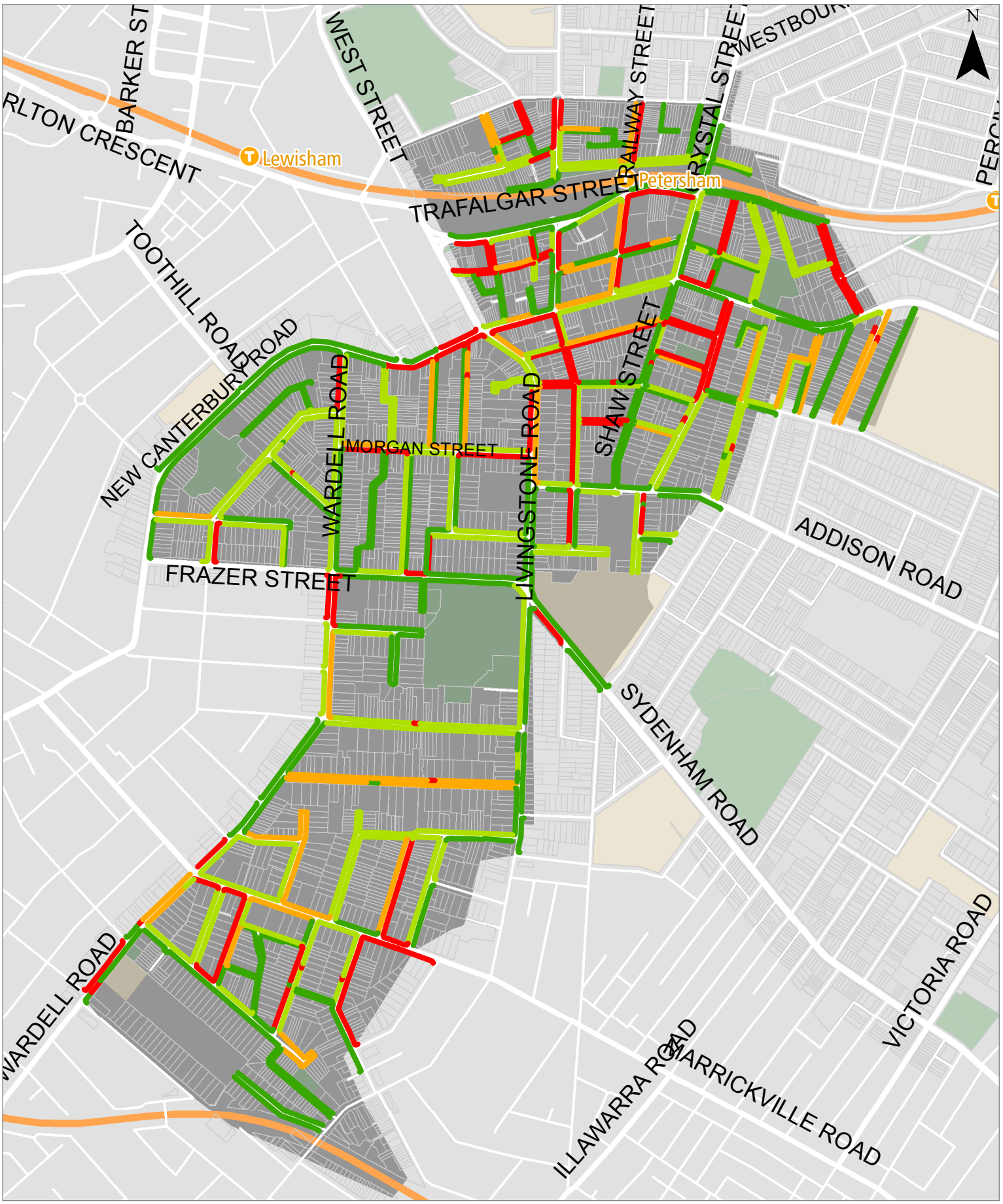
Thursday Peak Occupancy

Peak Occupancy

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

ARUP

Petersham Parking Study - Figure 32



0 250 500 Meters

Saturday Peak Occupancy

Peak Occupancy

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

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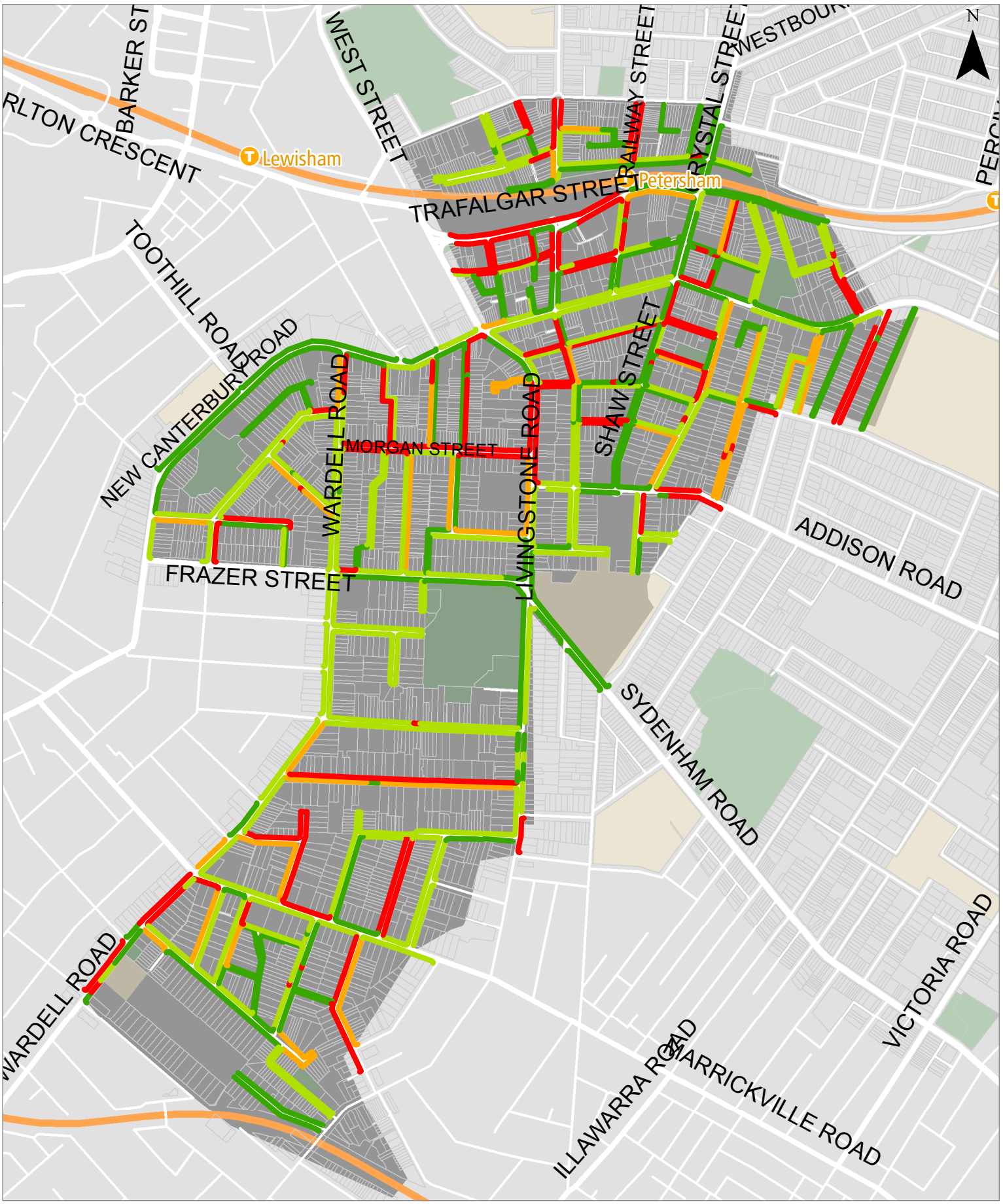
Petersham Parking Study - Figure 33



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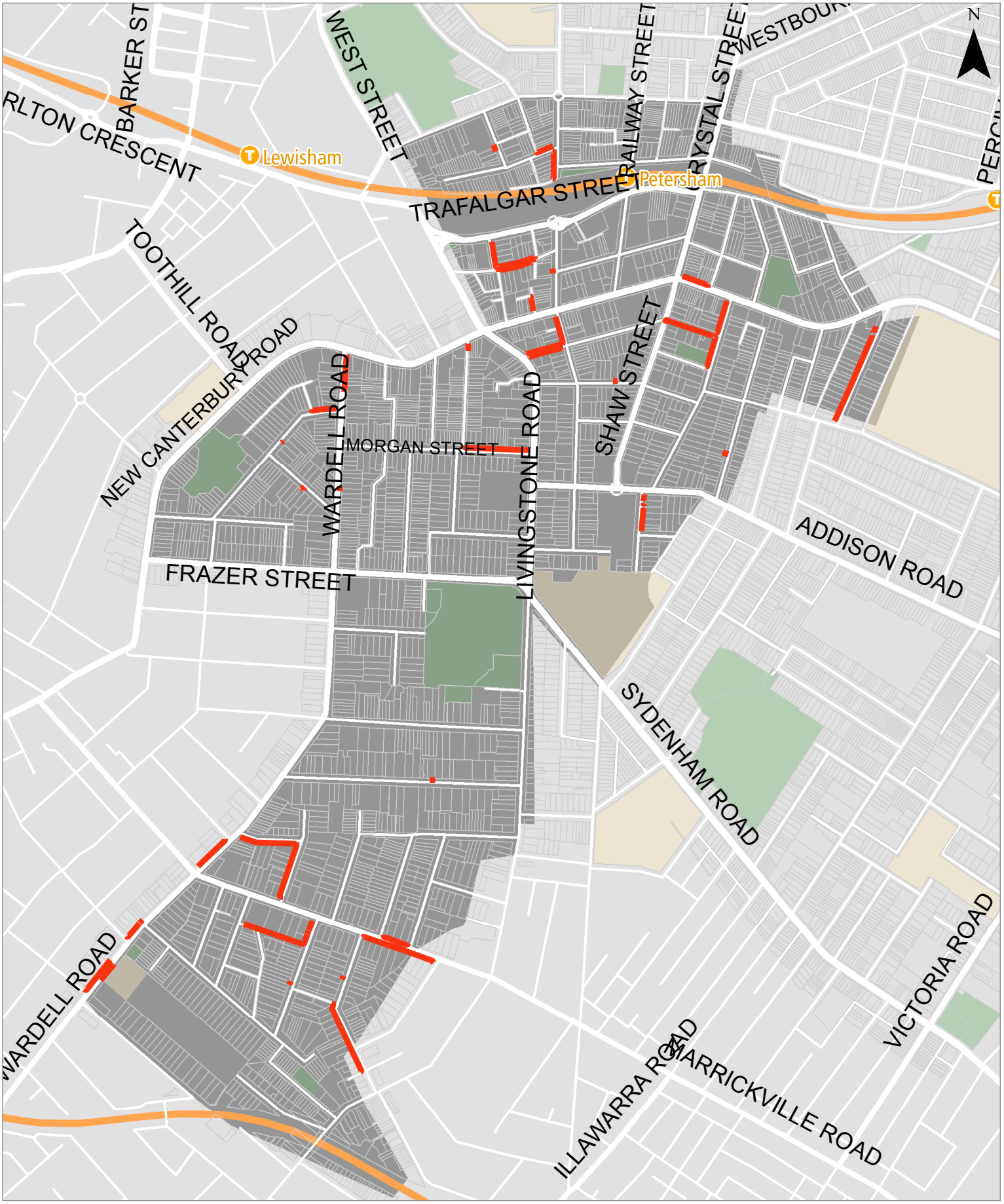
Petersham Parking Study - Figure 34



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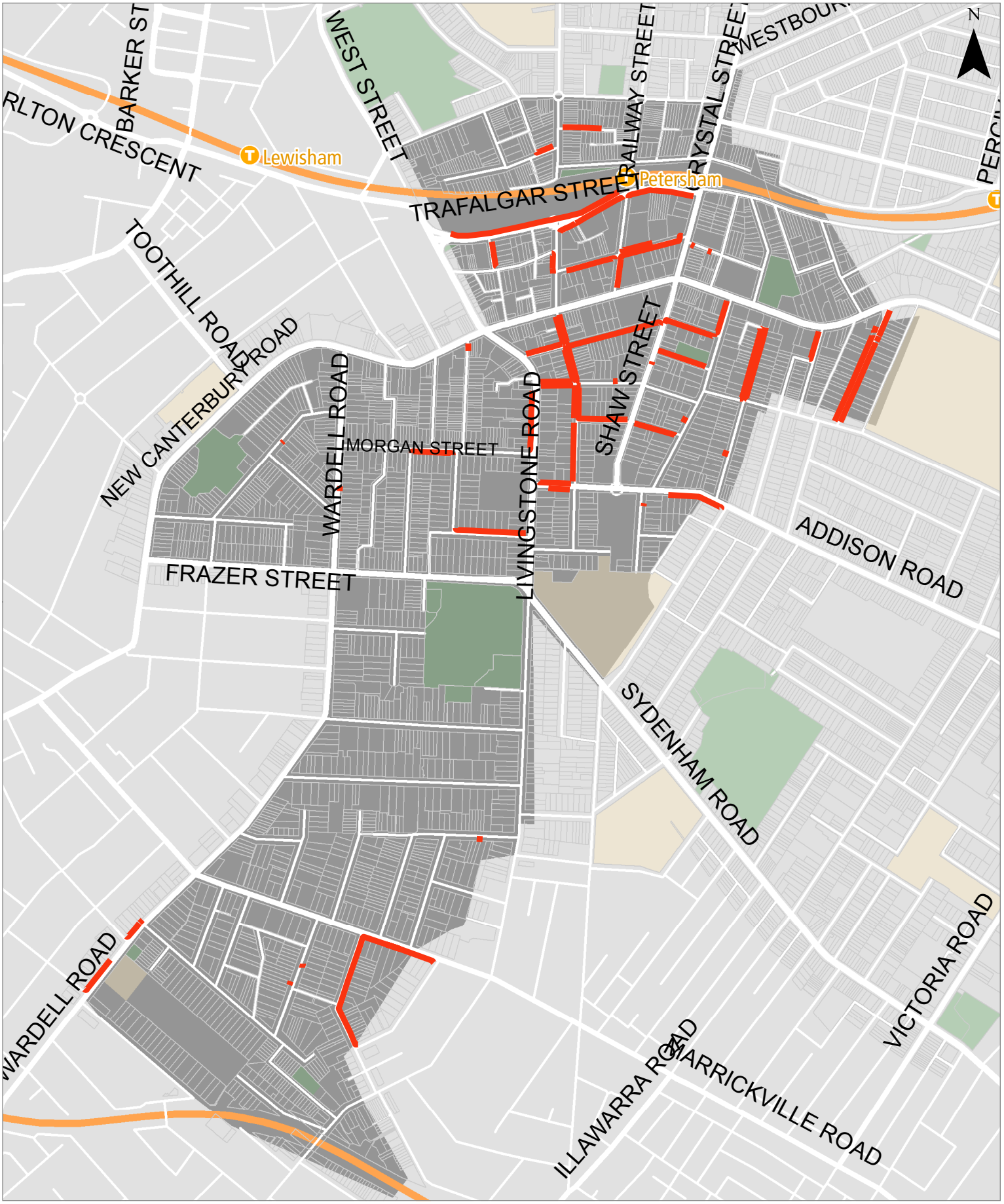
Petersham Parking Study - Figure 35



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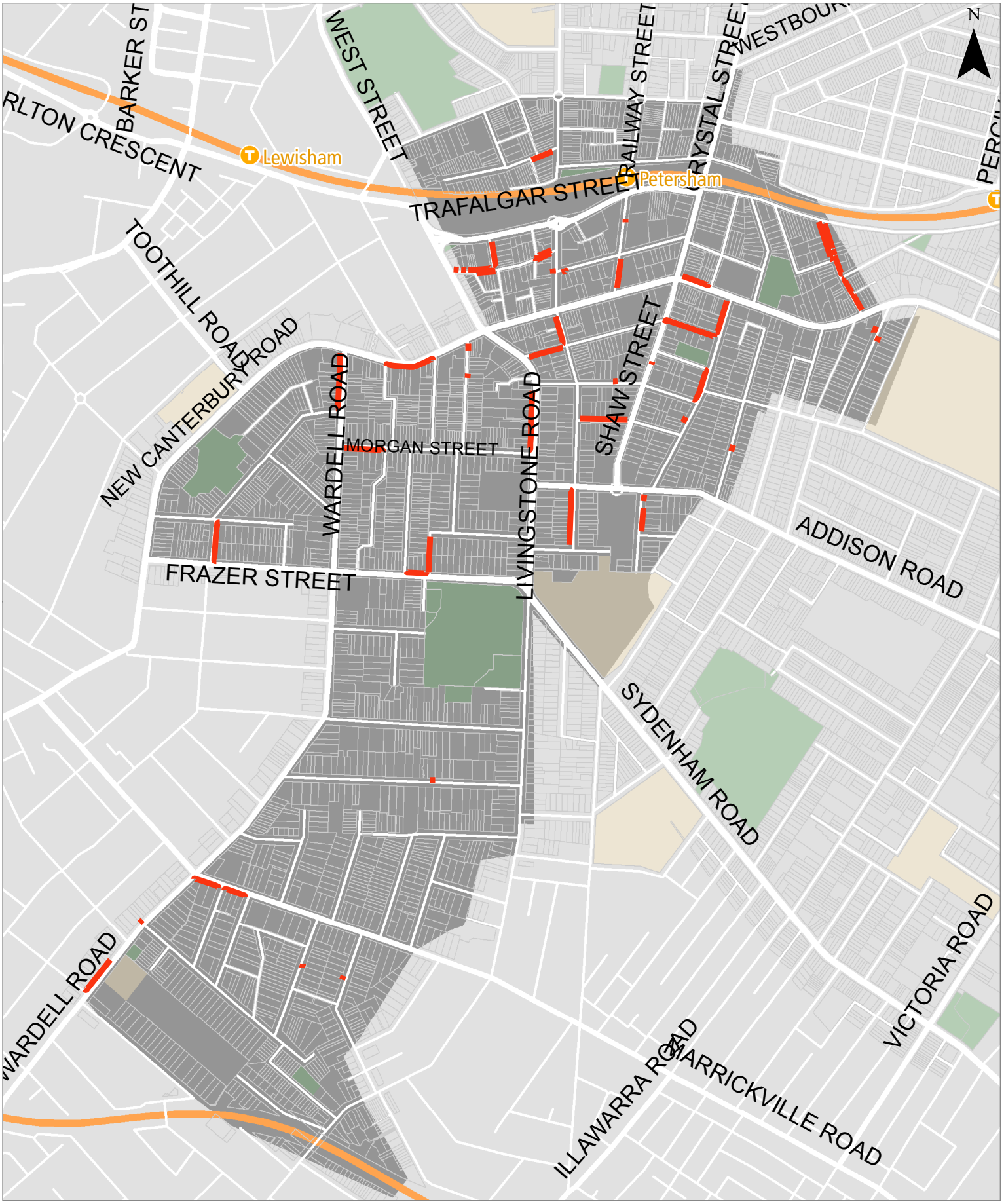
Petersham Parking Study - Figure 36



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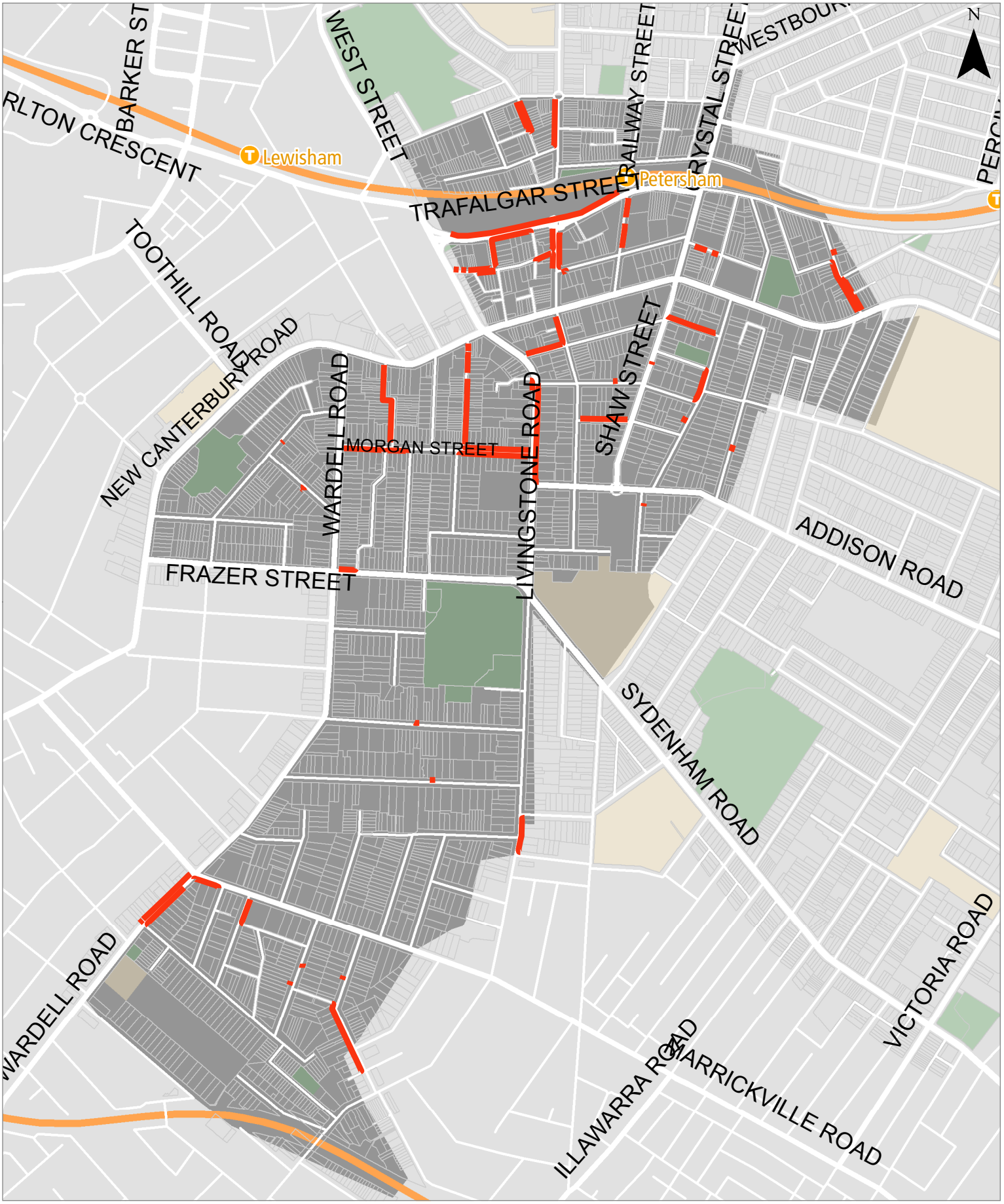
Petersham Parking Study - Figure 37



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Petersham Parking Study - Figure 38

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 Petersham precinct;
- Existing parking controls in neighbouring 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 Petersham 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 around Petersham Train Station 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 on streets surrounding Petersham railway station , 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

Extension of existing resident parking schemes (RPS) is proposed for the precinct. 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 Petersham precinct. These recommendations are outlined in the sections below.

7.4 Area 1 draft recommendations

7.4.1 Extension of M5 parking permit areas

The residential streets which are located immediately north of Petersham Train Station are not currently subject to time restricted parking, with the exception of Terminus Street which is part of the M5 residential parking area. Community feedback and parking occupancy data indicate that parking demand is high during the weekdays between 10am and 4pm.

These residential streets typically experience demand from commuters parking around Petersham Station, as well as visitors to retail uses on Brighton Street and Crystal Street. Terminus Street is located directly adjacent to Petersham Station and has an existing 2P 8:30am-6pm (Monday to Friday, M5 permit holders excepted). Data indicates that the RPS scheme is effective, with average occupancy rates of 50% during the weekdays on Terminus Street.

Recommendation 1: Palace Street

Conversion of the east side of Palace Street, between Brighton Street and Terminus Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended – 22 spaces in total. This would discourage long term parking from commuters and opportunities for resident (holding a permit) and/or short stay parking. The western side would be retained as unrestricted parking for residents and visitors. Existing occupancy rates on both sides of Palace Street were found to be approximately 55% during peak periods. This indicates that spillover effects are unlikely to be significant, as Palace Street has spare capacity during the day.

Recommendation 2: Railway Street

Conversion of the east side of Railway Street, between Brighton Street and Terminus Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended – 18 spaces in total. This would discourage long term parking and provide opportunities for residents (holding a permit) and short stay parkers. The western side would be retained as unrestricted parking for residents and visitors.

Recommendation 3: Searl Street

Conversion of the south side of Searl Street, between Palace Street and The Avenue, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended – 19 spaces in total. This would discourage long term parking and provide opportunities for residents (holding a permit) and short stay parkers. The northern side would be retained as unrestricted parking for residents and visitors.

Recommendation 4: Brighton Street

Conversion of the south side of Brighton Street, between Railway Street and Palace Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted) is recommended – 20 spaces in total. This would protect residential dwellings fronting Brighton Street from potential spillovers arising from the previous recommendations.

Recommendation 5: Terminus Street

To align with the recommended time restrictions to be implemented in adjacent streets, it is recommended the existing time restrictions on Terminus Street be altered to 2P 8am-10pm Mon-Fri, M5 permit holders excepted.

7.4.2 Additional parking opportunities

Additional parking is proposed to be provided at adjacent streets, through the form of angled parking. Angle parking can generally accommodate up to twice as many vehicles per unit length of kerb as parallel parking. AS2890.5 Parking Facilities Part 5 provides guidelines for the design of angled parking spaces and is attached in Appendix B. Streets in Area 1 which fulfil the design criteria for angled parking include Palace Street and Searl Street.

By providing additional parking, the likelihood of spillover as a result of the introduction of additional parking restrictions and long stay parkers migrating to other streets is reduced.

Recommendation 6: Searl Street

The south side of Searl Street currently has informal 90 degree parking spaces at the end of the cul-de-sac, shown in Figure 39. It is recommended to extend these parking spaces to marked 90 degree parking bays, from the cul-de-sac to The Avenue. These spaces would not be subject to parking restrictions. Extension of the proposed 90 degree parking bays would result in an approximate net increase of 13 parking spaces along Searl Street.

Figure 39: Existing 90 degree parking on Searl Street

Source: Google Streetview 2013

90 degree parking

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

Standardisation of existing RPS
2P 8am-10pm Mon-Fri
(M5 permit holders excepted)

0 100 200 Meters

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Summary of Draft Recommendations for Area 1 - Figure 40

7.5 Area 2 draft recommendations

7.5.1 Extension of M11 parking permit areas

The majority of residential streets which are located immediately south of Petersham Train Station are not currently subject to time restricted parking. These streets include Fisher Street, Trafalgar Street, Sadlier Crescent and Nelson Place. These streets are also located in close proximity to New Canterbury Road and is commonly used for visitor parking to the retail precinct. Community feedback and parking occupancy data show that parking demand is high during the weekdays between 10am and 4pm.

Audley Street and Chester Street, located off New Canterbury Road often experience high occupancy rates, according to the data and surveys. These streets are commonly used by patrons to nearby shops along New Canterbury Road and are important to local businesses. It is important to allocate a reasonable number of parking spaces for visitors and residents, rather than all day parkers.

This parking strategy recommends an extension of the existing M11 parking area to a number of residential streets as described below. It should be noted that business owners in the proposed extended M11 area would be able to apply for a business parking permit. Businesses can apply for a permit to fix to their vehicle to exempt their vehicle from time limits imposed by signposting the bearing words "Permit Holders Excepted" and the corresponding area code. The permits are only to be used in the area of business and are issued annually. The permit must be fixed to the inside of the front windscreen. There is a limit of 1 permit per business, at approved addresses.

Recommendation 7: Trafalgar Street east

Trafalgar Street, east of Audley Street is located immediately south of Petersham Train Station. It has unrestricted parking on both sides of the street with exception to the north side, east of Regent Street. This section of Trafalgar Street has no parking permitted between 7am-9am and 4pm-6pm (Mon-Fri), which prevents commuters from parking all day. It also provides an opportunity for visitors to surrounding businesses outside of the time restrictions.

As part of Marrickville Council's cycling strategy, a new bicycle facility is proposed to be constructed along Trafalgar Street, between Audley Street and Crystal Street. This initiative would involve the removal of 19 unrestricted and 17 no parking (at certain times) spaces along the north side of Trafalgar Street.

Data and parking surveys indicates that unrestricted parking demand along Trafalgar Street is high, with occupancy rates peaking at 93%, before dropping at 5pm, when commuters leave. 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 requiring only short stay parking.

Conversion of the southern side of Trafalgar Street, between Regent Street and Crystal Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted) is recommended – 12 spaces in total. This would discourage

long term parking from commuters, providing opportunities for residents, visitors and business permit holders.

Recommendation 8: Sadlier Crescent

Sadlier Crescent is located near the Petersham Train Station and retail shops along Audley Street. Survey data indicates parking occupancy is high at over 80% during the day. Conversion of the south side of the street, between Gordon Street and Audley Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted) is recommended – 28 spaces total. This would discourage long term parking from commuters and provide opportunities for residents (holding a permit), short stay parkers and visitors to nearby businesses. Implementing an RPS would also deter the migration of long term parkers as a result of spillovers from other initiatives.

Recommendation 9: Nelson Place

In order to mitigate the likely spillover effects from the proposed time restrictions on Sadlier Crescent (Recommendation 8), conversion of the east side of the street between Trafalgar Street and Sadlier Crescent to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted) is recommended – 7 spaces in total. This would provide opportunities for residents (holding a permit), short stay parkers and would also deter the migration of long term parkers as a result of spillovers from other initiatives.

Recommendation 10: Chester Street

Chester Street, between Audley Street and Shaw Street, has an average daily occupancy rate of 95%. Conversion of the south side of the street to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted) is recommended – 15 spaces in total. This would discourage long term parking from commuters and provide opportunities for residents (holding a permit), short stay parkers and visitors to nearby businesses.

Recommendation 11: Audley Street

Parking surveys indicated Audley Street, between New Canterbury Road and Chester Street, consistently recorded an occupancy rate of 100% throughout the day. Conversion of the east side of the street to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted) is recommended – 15 spaces in total. This would discourage long term parking from commuters and opportunities for residents (holding a permit), short stay parkers and visitors to nearby businesses.

Recommendation 12: Fisher Street

Fisher Street provides access to several major traffic attractors, such as Petersham RSL Club, Marrickville Council Administration Building and the New Canterbury Road retail strip. Existing parking restrictions along this street include time restricted and no restrictions on the north side, and no restrictions on the south side.

According to the data, the unrestricted spaces on the south side have a high occupancy rate of approximately 95% during the day. It drops to an average of 54% after 5pm when employees and commuters leave.

Conversion of the southern side of Fisher Street, between Audley Street and Crystal Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted) is recommended – 28 spaces in total. This would provide opportunities for residents (with permits) and visitors to the area. Employees would be able to utilise the existing off-street carparks on Fisher Street and Regent Street which have 9P restrictions.

7.5.2 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.

Several parking spaces within Area 2, which are near businesses and not fronting residential dwellings, 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 within Area 2 do not have access to short term parking for customers.

Recommendation 13: Short term parking opportunities

It is recommended that the following street sections, summarised in Table 8, be converted to short stay parking to provide greater parking opportunities for customers of nearby businesses.

It is recommended these spaces be signposted as 2P 8am-10pm (Mon-Fri) & 8:30am-12:30pm (Sat). The current 'no parking' restrictions along Livingstone Road and Marshall Street during the PM peak would remain in force.

Table 8: Conversion of unrestricted spaces to short term parking

Location	Between	Existing Restrictions	Number of spaces converted
Livingstone Road (west)	Rosford Avenue to Chester Street	No Parking 3.30pm-6.30pm (Mon-Fri)	10
Chester Street (north)	Livingstone Road to Audley Street	No restrictions	7
Albert Street (west)	46 Albert Street to Stanmore Road	No restrictions	4
Marshall Street (west)	Stanmore Road to driveway	No Parking 3.30pm-6.30pm (Mon-Fri)	2
Trafalgar Street	297 Trafalgar Street to Audley Street	No restrictions	9

7.5.3 No parking areas and future occupancy monitoring

Survey feedback from residents living along Allans Avenue, Ducros Street and Maria Street indicate that they are in favour of changes to be made to existing parking restrictions. These streets are located off New Canterbury Road and may attract visitors to nearby shops to park, particularly during clearway periods on New Canterbury Road and in the evenings. These streets have been carefully considered as part of this strategy.

Recommendation 14: Allans Avenue

Allans Avenue is a narrow two-way laneway, with unrestricted parking on both sides. However the north section of Allans Avenue is too narrow to accommodate parking on both sides of the street. Emergency vehicles accessing the St John Ambulance building have difficulties manoeuvring into the driveway.

It is recommended that no parking restrictions along the northern end of Allans Avenue be implemented. It is recommended these spaces be signposted as 'No Parking, emergency vehicles excepted', to allow short term parking for St John Ambulance. This recommendation is subject to further investigation with council and relevant stakeholders.

Recommendation 15: Ducros Street and Maria Street

Ducros Street and Maria Street are both narrow roads with unrestricted parking generally provided. The exception to this is on Ducros Street with approximately five 1P time restricted spaces closer to New Canterbury Road available. No parking restrictions at all times are implemented on one side of the street. According to the parking survey data, average weekday occupancy along these streets was approximately 60%, suggesting there is some spare capacity available.

Recent policy when considering extending resident parking schemes has generally been to provide restrictions on one side of the road, with unrestricted parking on the other side. As Ducros Street and Maria Street has parking on one side of the road only, it does not fall under this criteria. Further monitoring of parking demand on these streets is recommended to ensure no adverse effects are felt as a result of the recommendations proposed in this strategy.

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Summary of Draft Recommendations for Area 2 - Figure 41

7.6 Area 3 draft recommendations

The community feedback received over the course of this study indicated no specific issues or areas of concern within Area 3 of the study area. There are no major generators of parking demand in the precinct which is reflected in the parking occupancy data.

The primary parking issue within Area 3 is parking restrictions within laneways. This is considered in detail in Section 7.8 of this report.

Average parking occupancy for streets within the precinct was typically less than 60% throughout each surveyed day. With the exception of Robert Street and a small section of Marrickville Road, no one street recorded average occupancies of greater than 85%.

Four responses from residents of Robert Street were received during the community feedback period, with three of these noting a preference for no restricted parking.

On this basis no changes are proposed for parking restrictions within Robert Street or any other street within Area 3 of the precinct as part of this strategy.

7.7 Potential loss of parking due to new cycleways

It is understood that Marrickville Council is currently considered the development of new dedicated cycleways in the precinct, specifically along Trafalgar Street, Livingstone Road and Addison Road. Implementation of these cycleways may result in the loss of on-street car parking spaces along these streets.

These new cycleway proposals are subject to a separate approvals process with the design still to be finalised. Nonetheless this parking strategy has provided recommendations should on-street parking be removed as part of these proposals.

Recommendation 16: Potential loss of parking due to new cycleways

Should on-street parking be removed as part of new cycleways proposed through the precinct, Council should consider the following strategies to mitigate this loss of spaces:

- Insertion / extension of resident parking scheme to mitigate any spillover effects onto neighbouring streets as a result of the loss of parking
- Investigation of angled parking on side streets in close proximity to the cycleway to offset the spaces lost. This may include the following streets, however would be subject to separate investigation to confirm the suitable of these streets to accommodate angled parking:
    - Coronation Street (western side at the northern end of the street)
    - William Street (western side at the southern end of the street)
    - Pile Street (northern side at the eastern end of the street).

7.8 Laneway Parking

Parking in laneways was a common issue that was raised during the community consultation period of this study. It was noted parking was occurring in many laneways where there was insufficient width for vehicles to safely enter and exit off-street car parking areas (typically into private properties). Effectively managed laneways allow for adequate access while providing the maximum amount of on-street parking.

Marrickville Council has developed draft Laneway Parking Guidelines to address community concerns about accessing, using and parking in narrow laneways in the Marrickville local government area.

The guidelines acknowledge that the preferable arrangement is for residents to negotiate with each other and avoid the unnecessary implementation of parking bans. Ideally, consideration of controls for individual laneways should be decided on a case by case basis for specific laneways.

To establish guidelines on the required distance of restricted parking from a driveway, recommendations have been developed based on the width of the laneway. The ability to access and egress to a lane or driveway depends on the width of the access lane and the thoroughfare laneway.

These parking requirements are outlined in Figure 42.

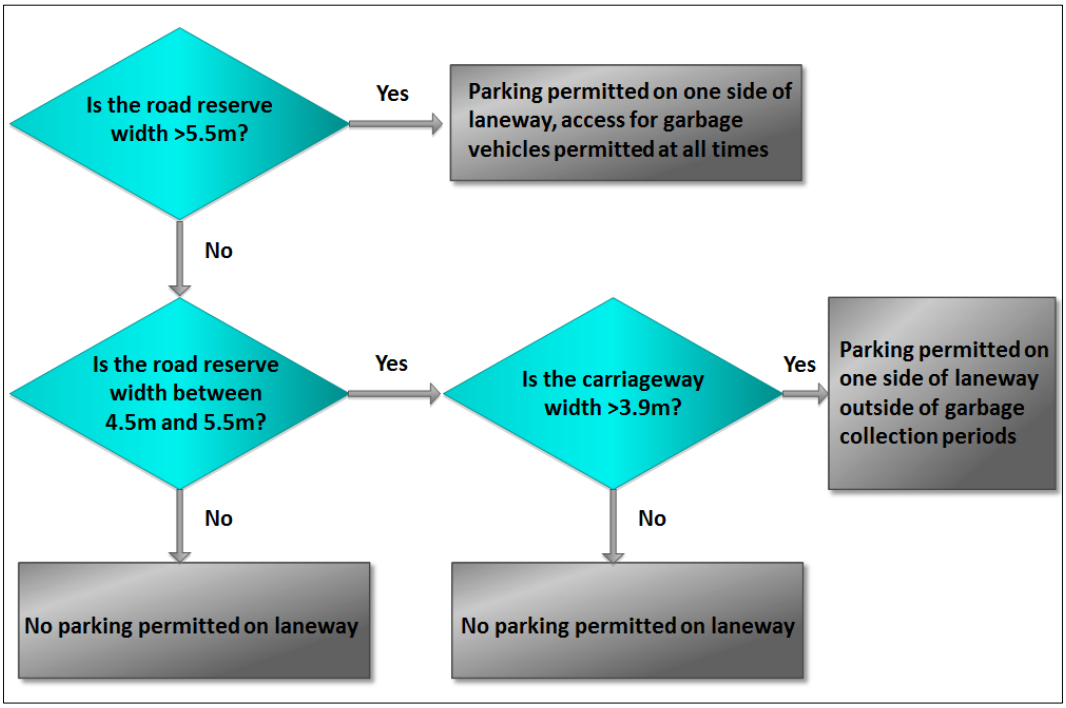


Figure 42: Laneway Parking Requirements

Recommendation 17: Laneway parking

Continue to apply the draft laneway guidelines to streets within the study area, with proposals to modify parking arrangements in laneways to be considered on a case by case basis.

7.9 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 Petershamwith 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.

7.10 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 18: 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.

7.11 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 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. negation 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. 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 spaces[2].

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.

Recommendation 19: 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.

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

8 Summary

Arup has conducted a detailed parking study for the Petersham 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 Petersham precinct;
- Existing parking controls in neighbouring 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 9 below.

Table 9: Draft Parking Strategy Recommendations

Recommendation	Recommendation Description
Recommendation 1: Palace Street	Covert the east side of Palace Street, between Brighton Street and Terminus Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 2: Railway Street	Covert the east side of Railway Street, between Brighton Street and Terminus Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 3: Searl Street	Covert the south side of Searl Street, between Palace Street and The Avenue, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 4: Brighton Street	Covert the south side of Brighton Street, between Railway Street and Palace Street, to time restricted parking (2P 8am-10pm Mon-Fri, M5 permit holders excepted)
Recommendation 5: Terminus Street	Existing time restrictions on Terminus Street be altered to 2P 8am-10pm Mon-Fri, M5 permit holders excepted
Recommendation 6: Searl Street	Convert the parallel parking bays to marked 90 degree parking bays on Searl Street, from the cul-de-sac to The Avenue
Recommendation 7: Trafalgar Street east	Covert the southern side of Trafalgar Street, between Regent Street and Crystal Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 8: Sadlier Crescent	Covert the south side Sadlier Crescent (between Gordon Street and Audley Street) to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 9: Nelson Place	Covert the east side of Nelson Place, between Trafalgar Street and Sadlier Crescent, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)

Recommendation	Recommendation Description
Recommendation 10: Chester Street	Covert the south side of Chester Street, between Audley Street and Shaw Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 11: Audley Street	Covert the east side of Audley Street, between New Canterbury Road and Chester Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 12: Fisher Street	Covert the southern side of Fisher Street, between Audley Street and Crystal Street, to time restricted parking (2P 8am-10pm Mon-Fri, M11 permit holders excepted)
Recommendation 13:	Covert the following sections of street to be signposted as 2P 8am-10pm (Mon-Fri) & 8:30am-12:30pm (Sat) • Livingstone Road (west) – Rosford Avenue to Chester Street • Chester Street (north) – Livingstone Road to Audley Street • Albert Street (west) – 46 Albert Street to Stanmore Road • Marshall Street (west) – Stanmore Road to driveway
Recommendation 14: Allans Avenue	No parking restrictions along the northern end of Allans Avenue be implemented. This recommendation is subject to further investigation with council and relevant stakeholders.
Recommendation 15: Ducros Street and Maria Street	Monitor parking demand on Ducros Street and Maria Street to ensure no adverse effects are felt as a result of the recommendations proposed in this strategy
Recommendation 16: Potential loss of parking due to new cycleways	Should on-street parking be removed as part of new cycleways proposed through the precinct, Council should consider either the implementation of resident parking controls and/or the introduction of angled parking to mitigate this loss of spaces
Recommendation 17: Laneway parking	Continue to apply the draft laneway guidelines to streets within the study area, with proposals to modify parking arrangements in laneways to be considered on a case by case basis.
Recommendation 18: 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.
Recommendation 19: 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

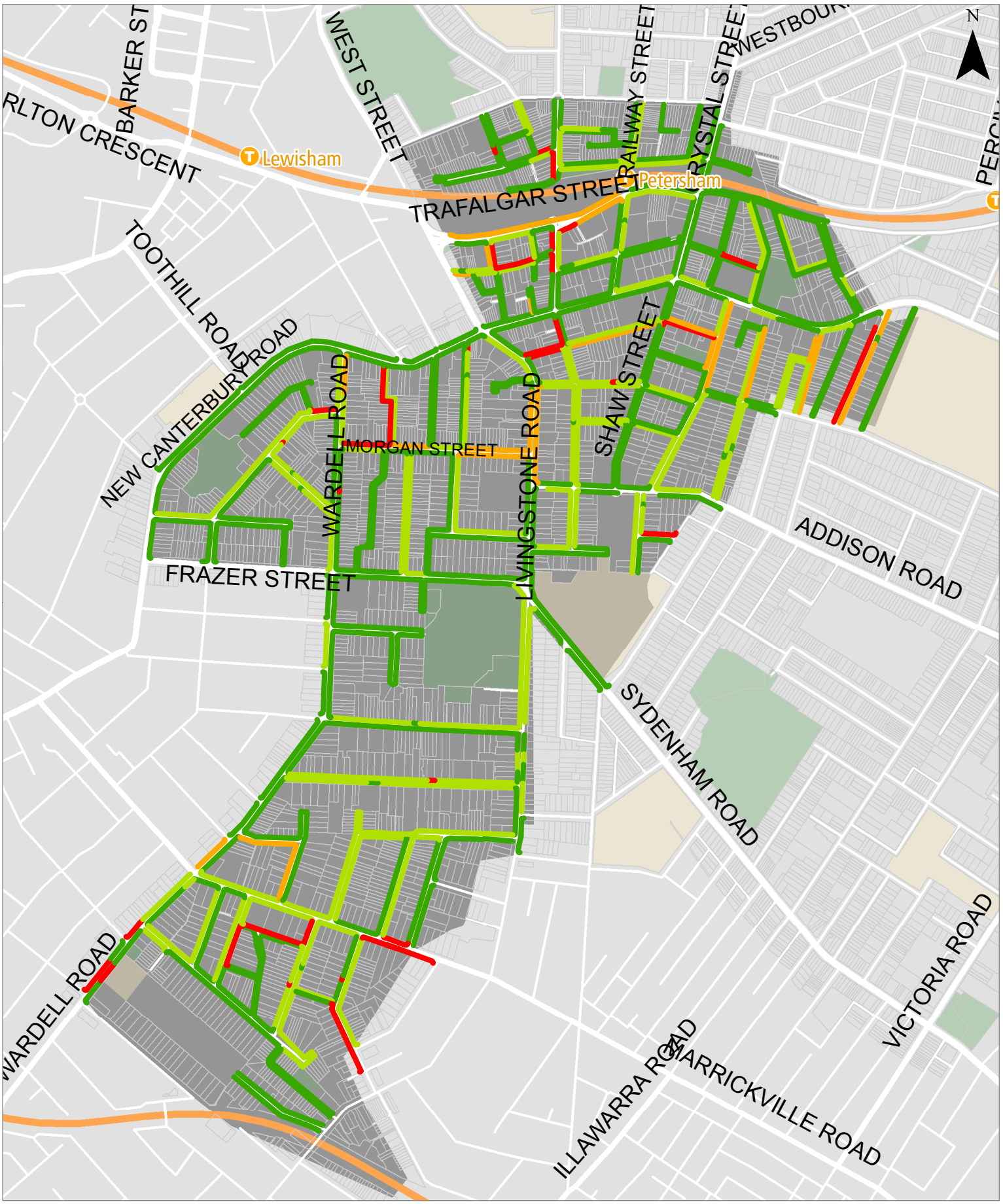
The streets subject to the proposed changes to parking restrictions, and the number of car parking spaces impacted, are summarised in Table 2.

Table 10 Overview of proposed parking restriction changes

Location	Between	Proposed Changes					
		2P	2P (8am - 10pm Permit Excepted - Mon to Fri)	2P (8.30am - 6pm Permit Excepted - Mon to Fri)	No Parking (PM peak)	No restrictions	No Parking
Trafalgar Street (south)	Regent Street to Crystal Street		+12			-12	
Sadlier Crescent (south)	Gordon Street to Audley Street		+28			-28	
Nelson Place (east)	Trafalgar Street to Sadlier Crescent		+7			-7	
Fisher Street (south)	Audley Street to Crystal Street		+28			-28	
Chester Street (south)	Audley Street to Shaw Street		+15			-15	
Audley Street (east)	69 Audley Street to Oxford Street		+15			-15	
Livingstone Road (west)	Rosford Avenue to Chester Street	+10			-10		
Chester Street (north)	Livingstone Road to Audley Street	+7				-7	
Albert Street (west)	46 Albert Street to Stanmore Road	+4				-4	
Marshall Street (west)	Stanmore Road to driveway	+2			-2		
Allans Avenue (north)	Canterbury Road to bend)					-10	+10
Searl Street (south)	The Avenue to Palace Street		+19			-19	
Searl Street (south)	The Avenue to cul-de-sac					+13	
Palace Street (east)	Brighton Street to Terminus Street		+22			-22	
Railway Street (east)	Brighton Street to Terminus Street		+18			-18	
Palace Street (east)	Searl Street to South Avenue		+9			-9	
Brigthon Street (south)	Palace Street to Railway Street		+20			-20	
Terminus Street (north)	Palace Street to Crystal Street		+44	-44			
Total		**+23**	**+237**	**-44**	**-12**	**-201**	**+10**

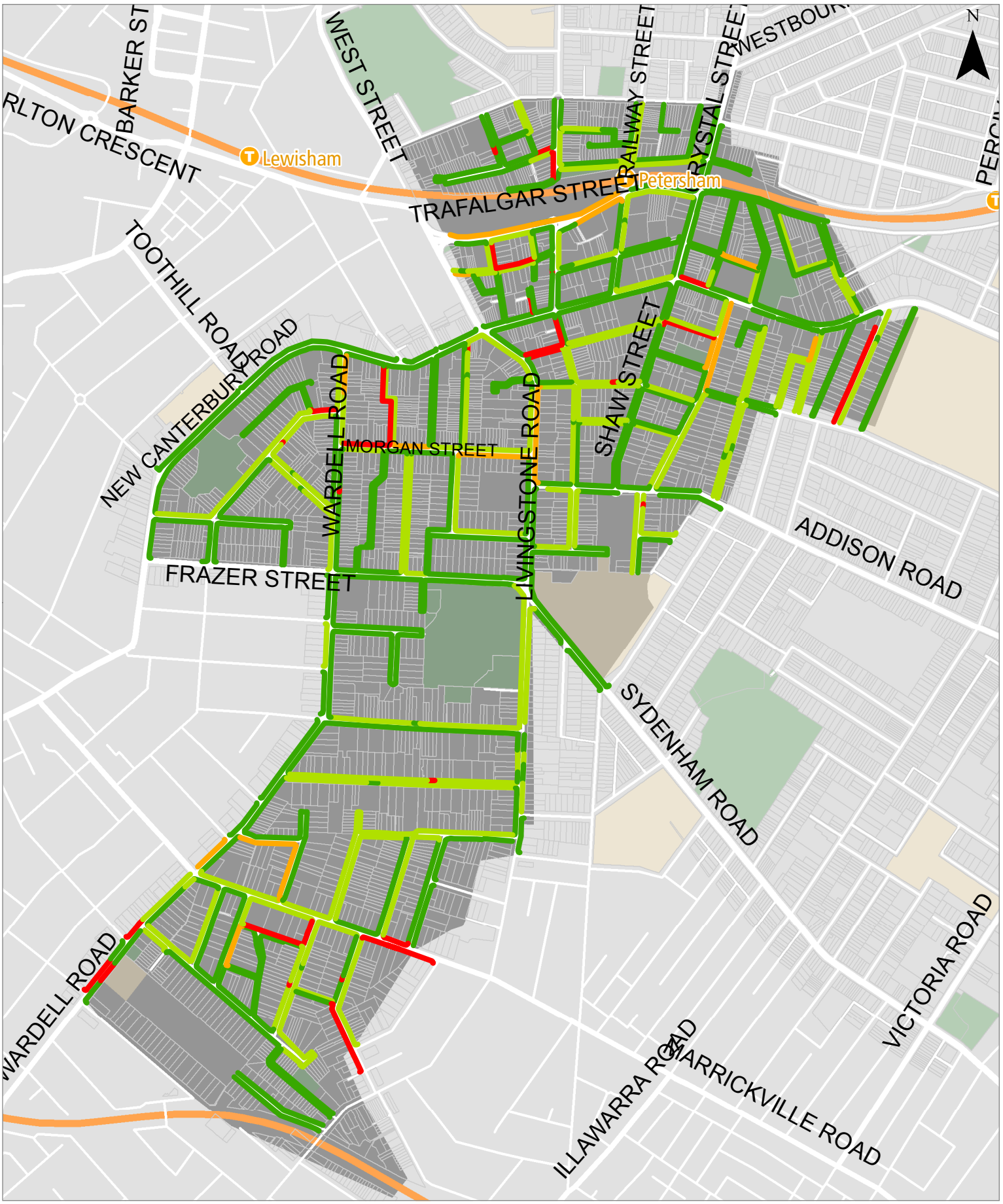
Appendix A

Parking Survey Results



ARUP

Petersham Parking Study



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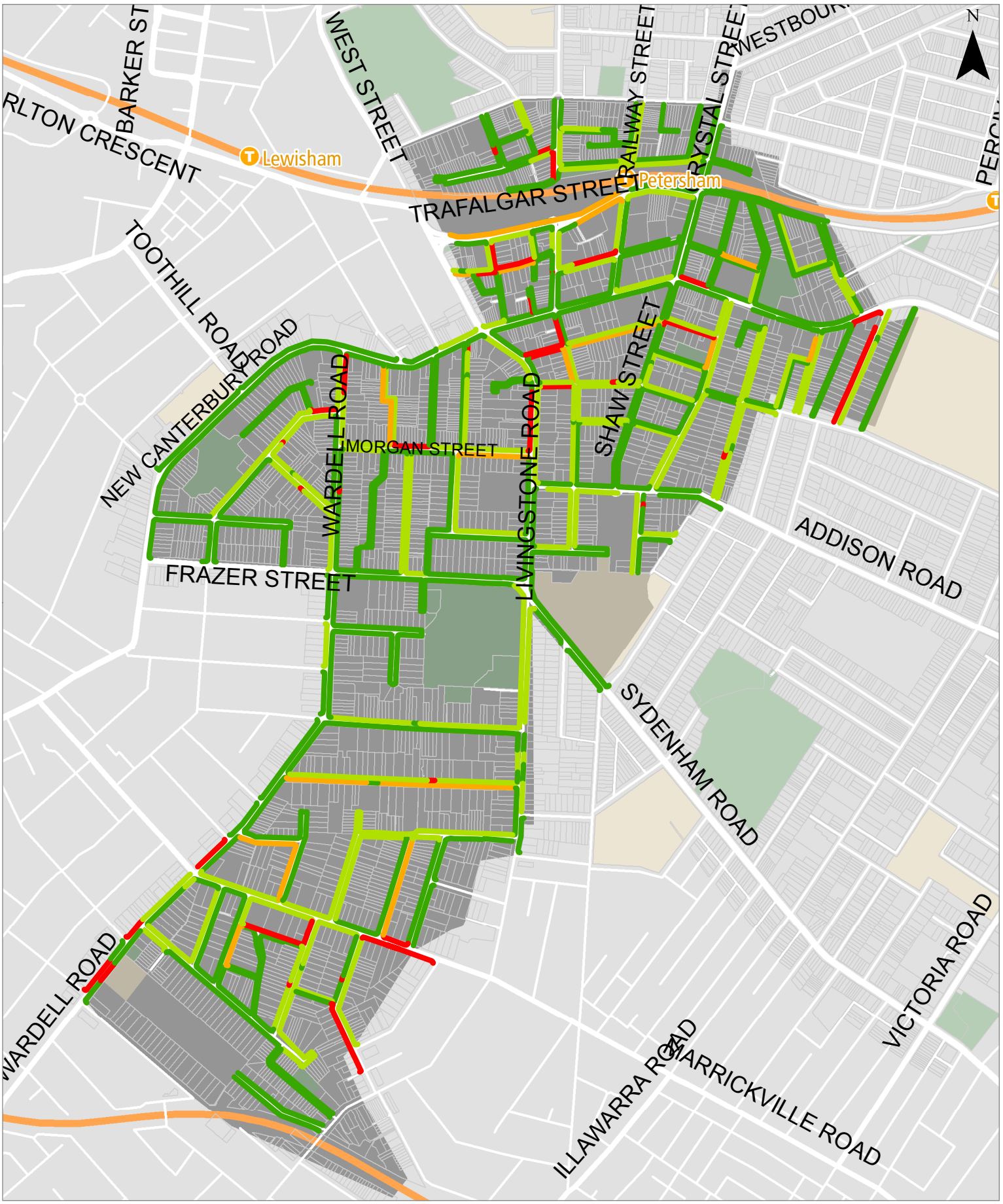
Petersham Parking Study



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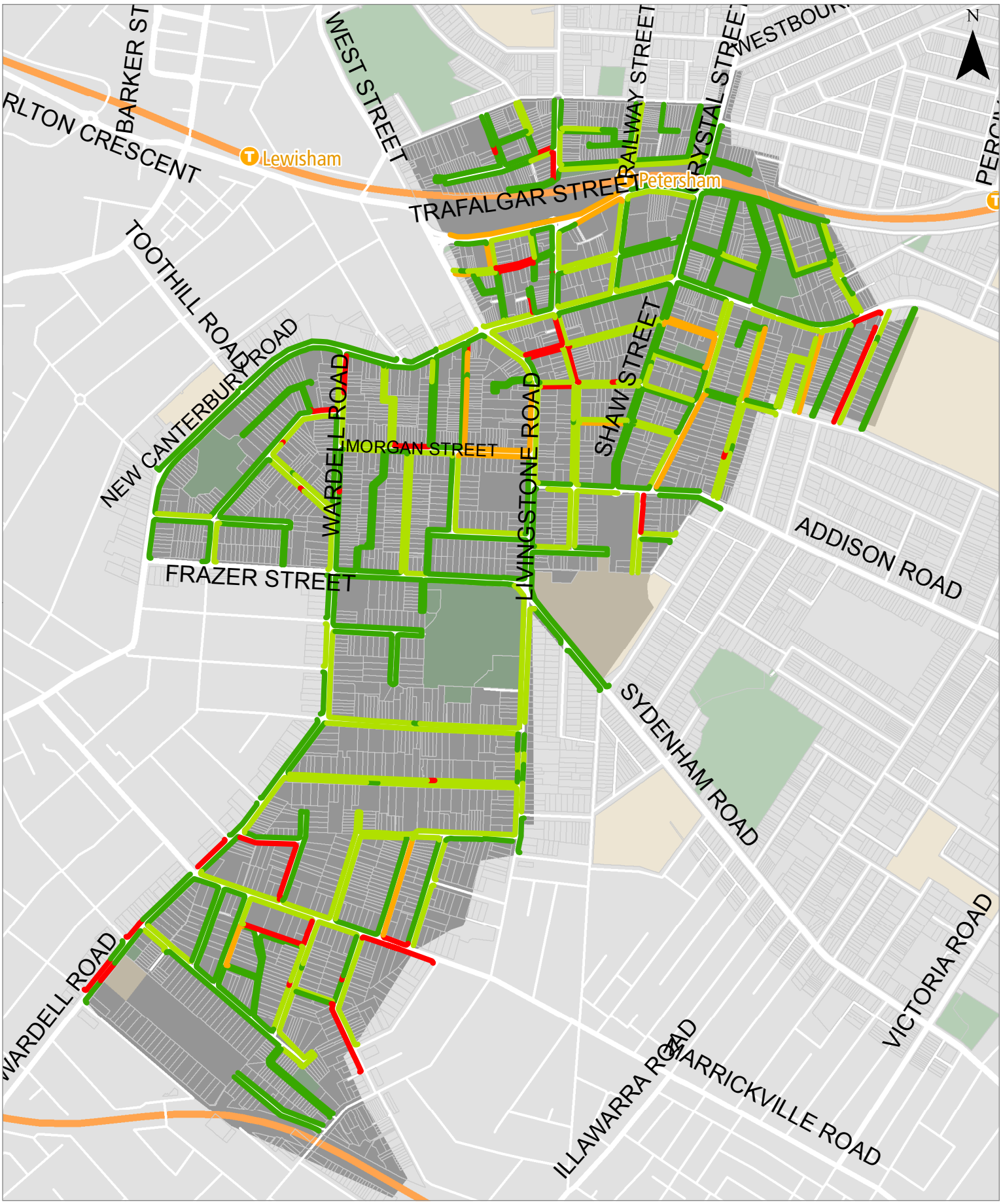
Petersham Parking Study



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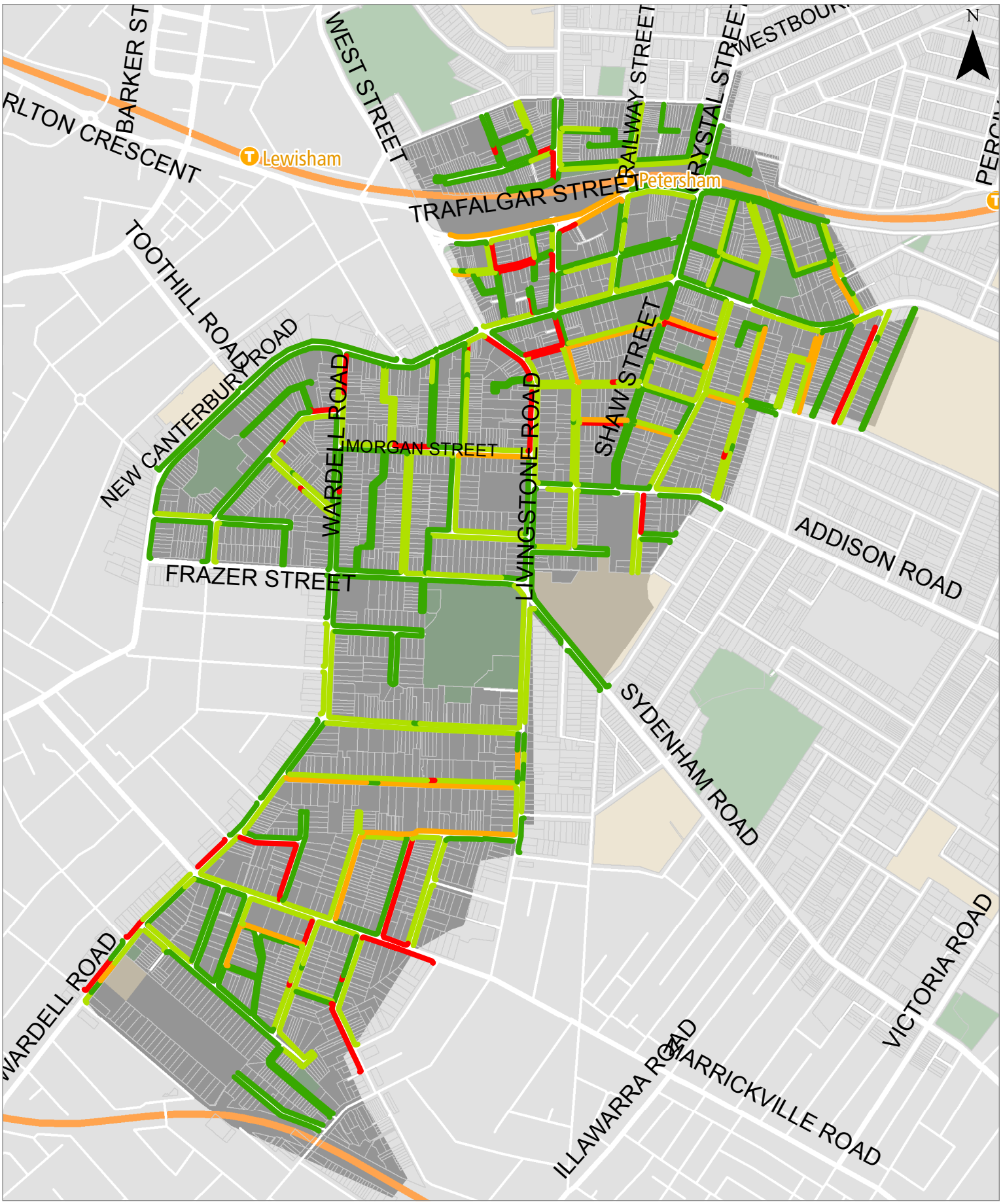
Petersham Parking Study



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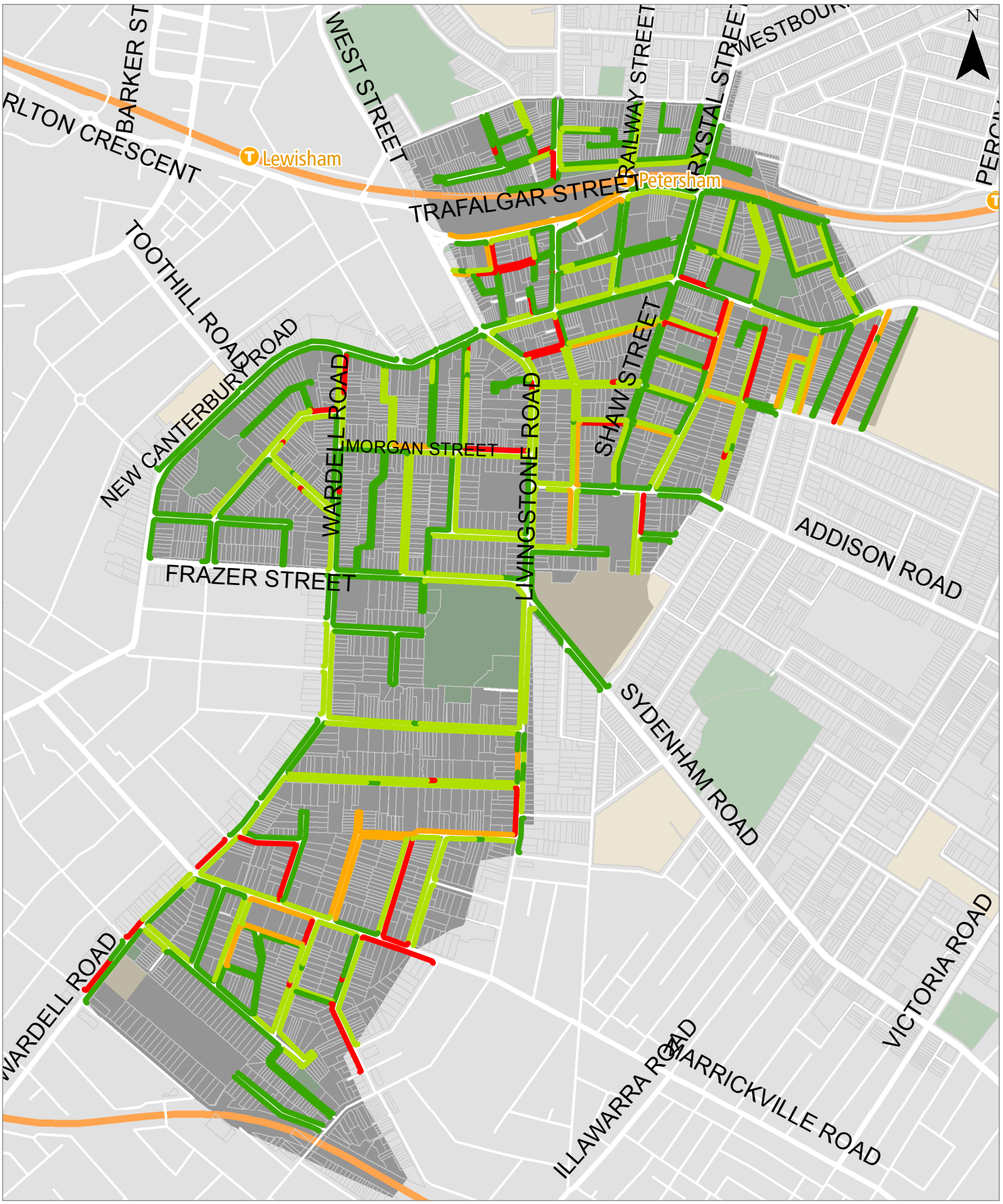
Petersham Parking Study



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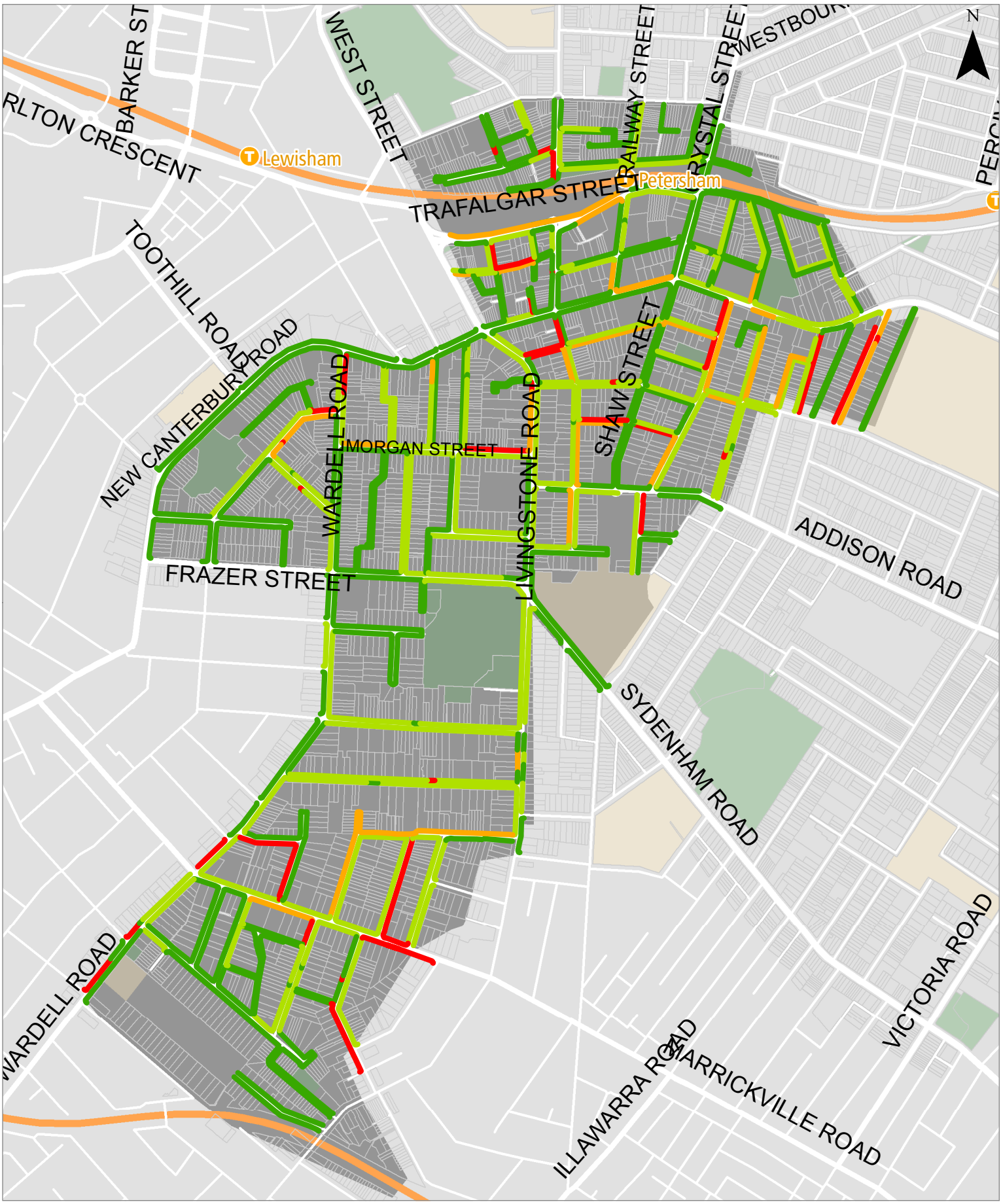
Petersham Parking Study



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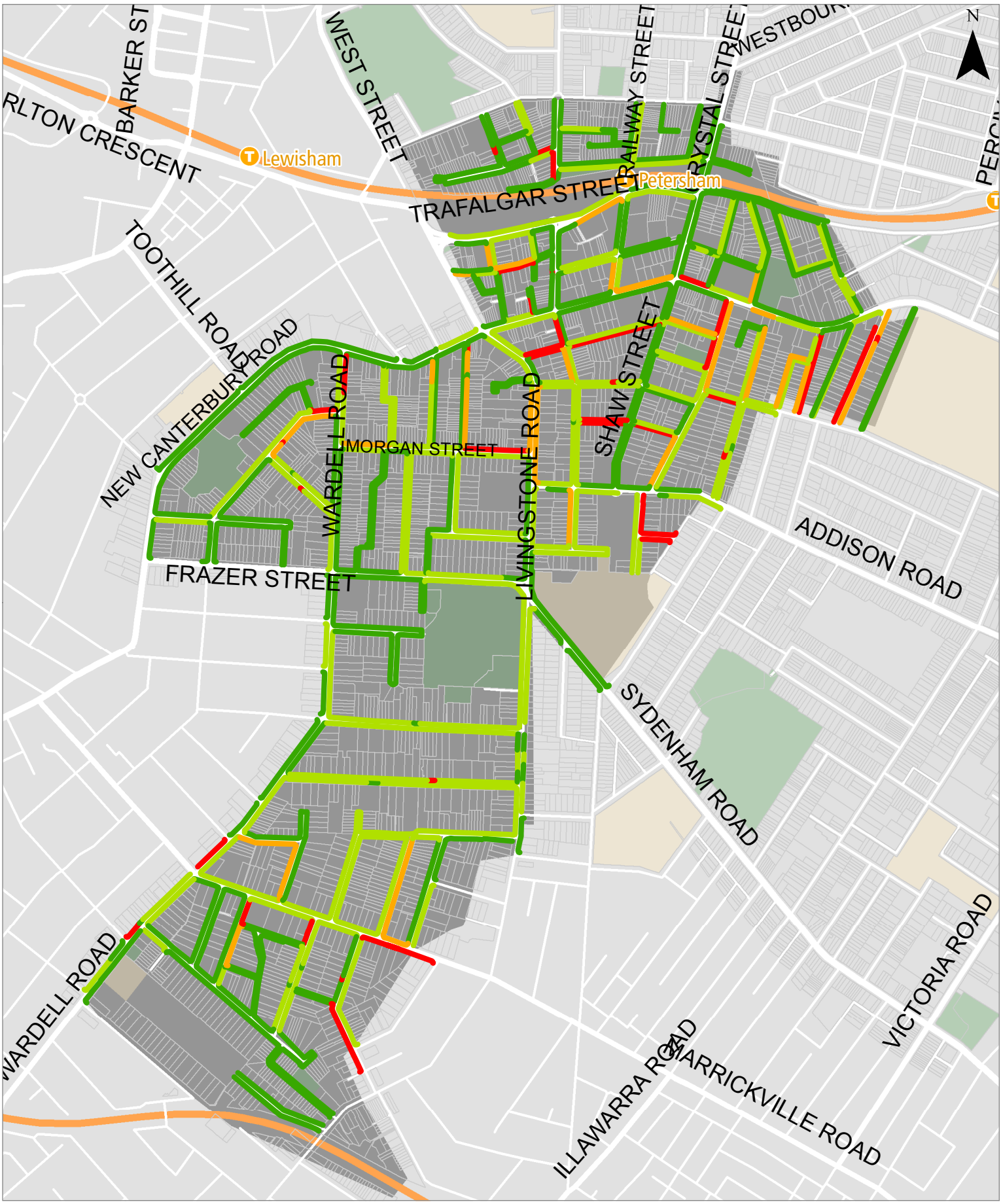
Petersham Parking Study



0 250 500 Meters

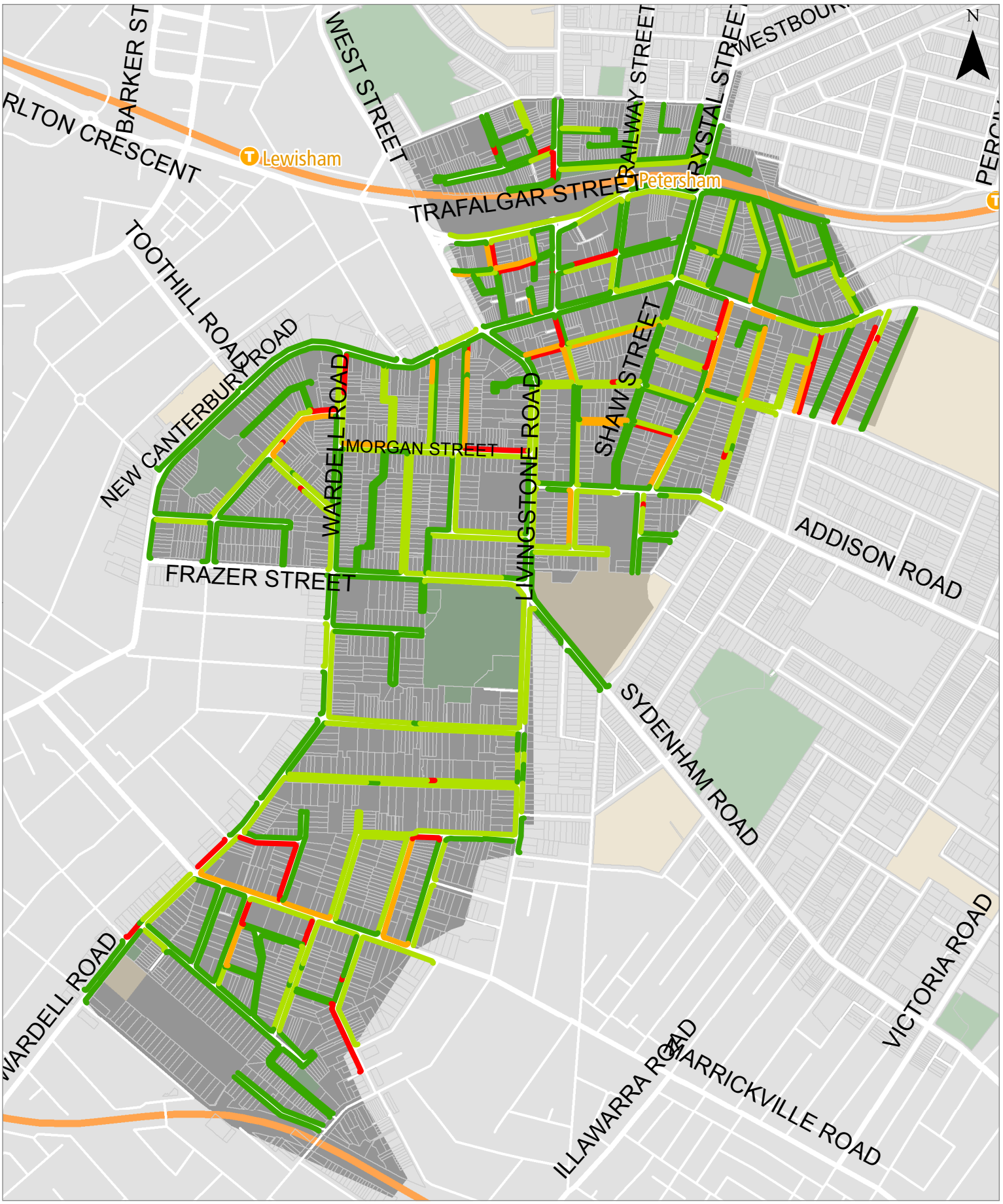
Tuesday 3pm

Occupancy

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

ARUP

Petersham Parking Study



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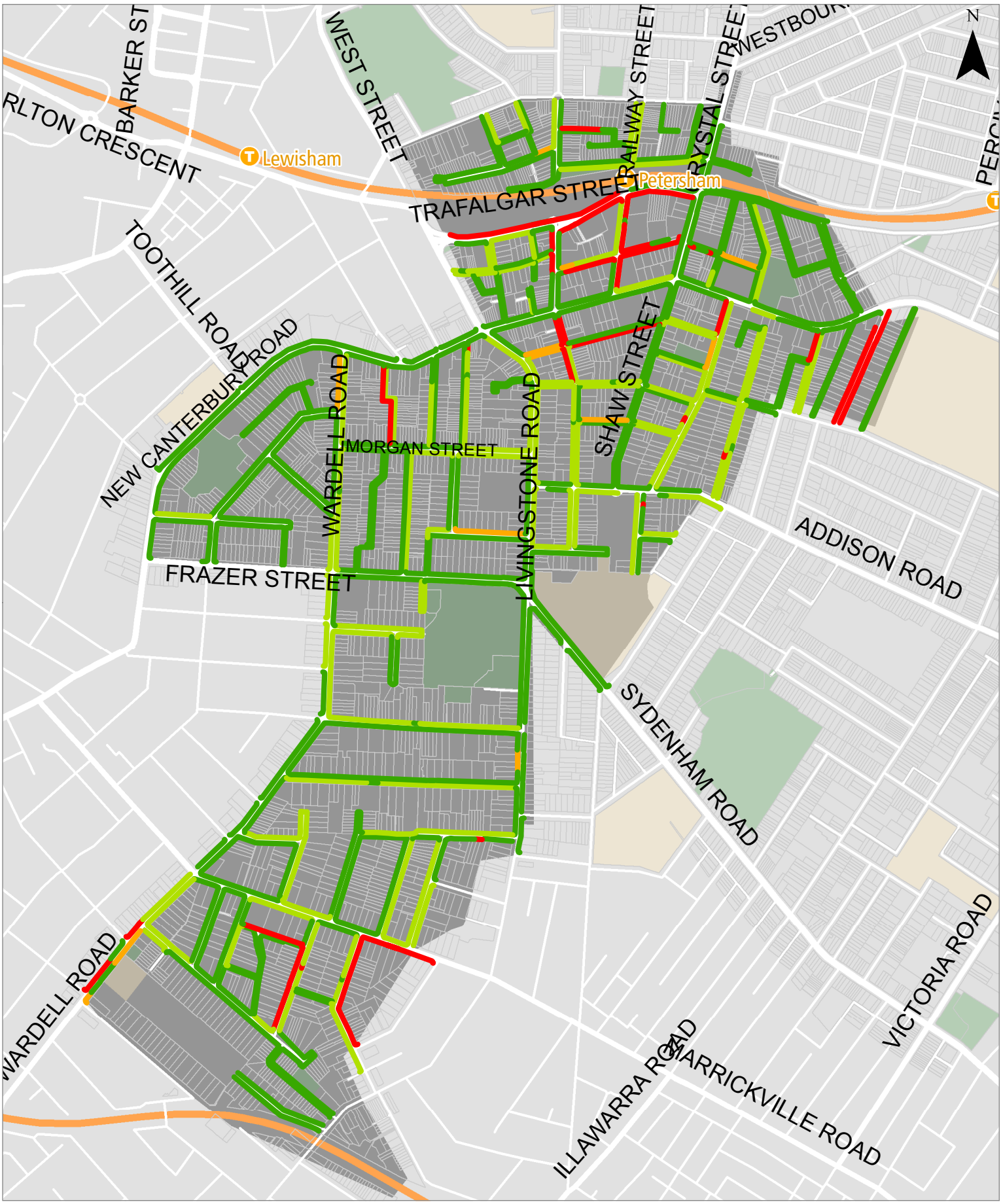
Petersham Parking Study



0 250 500 Meters

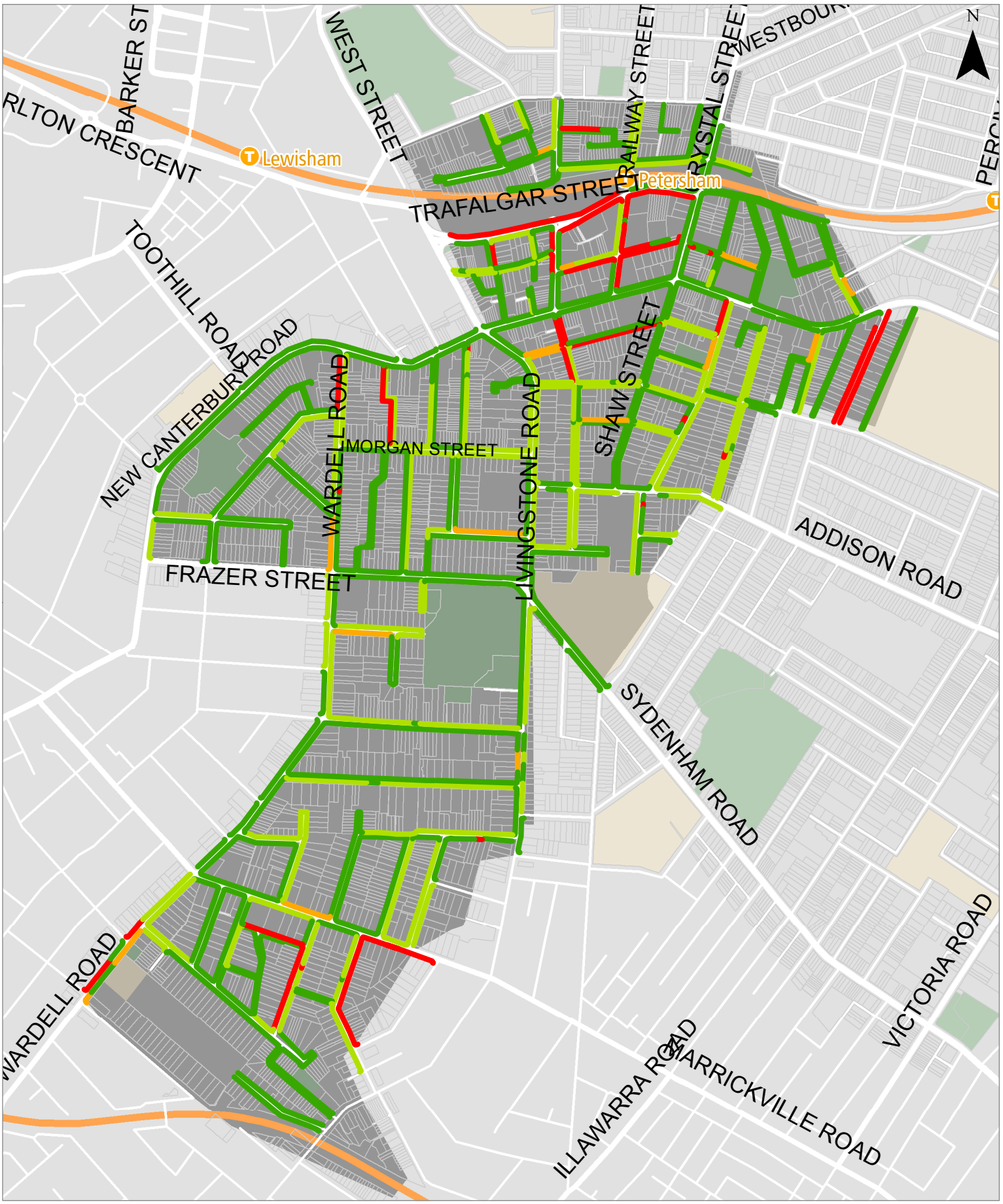
Thursday 8am

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

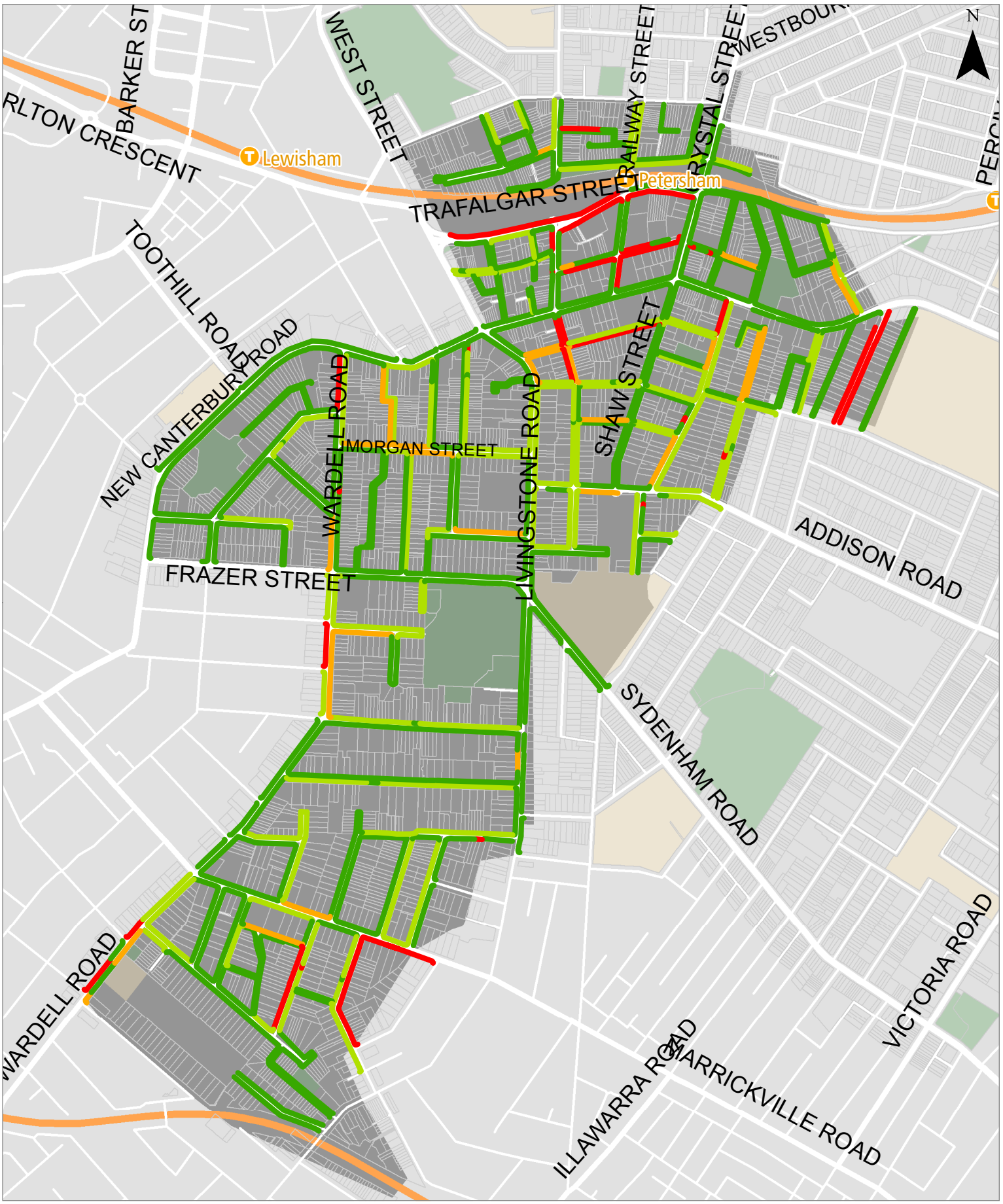
Thursday 9am

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

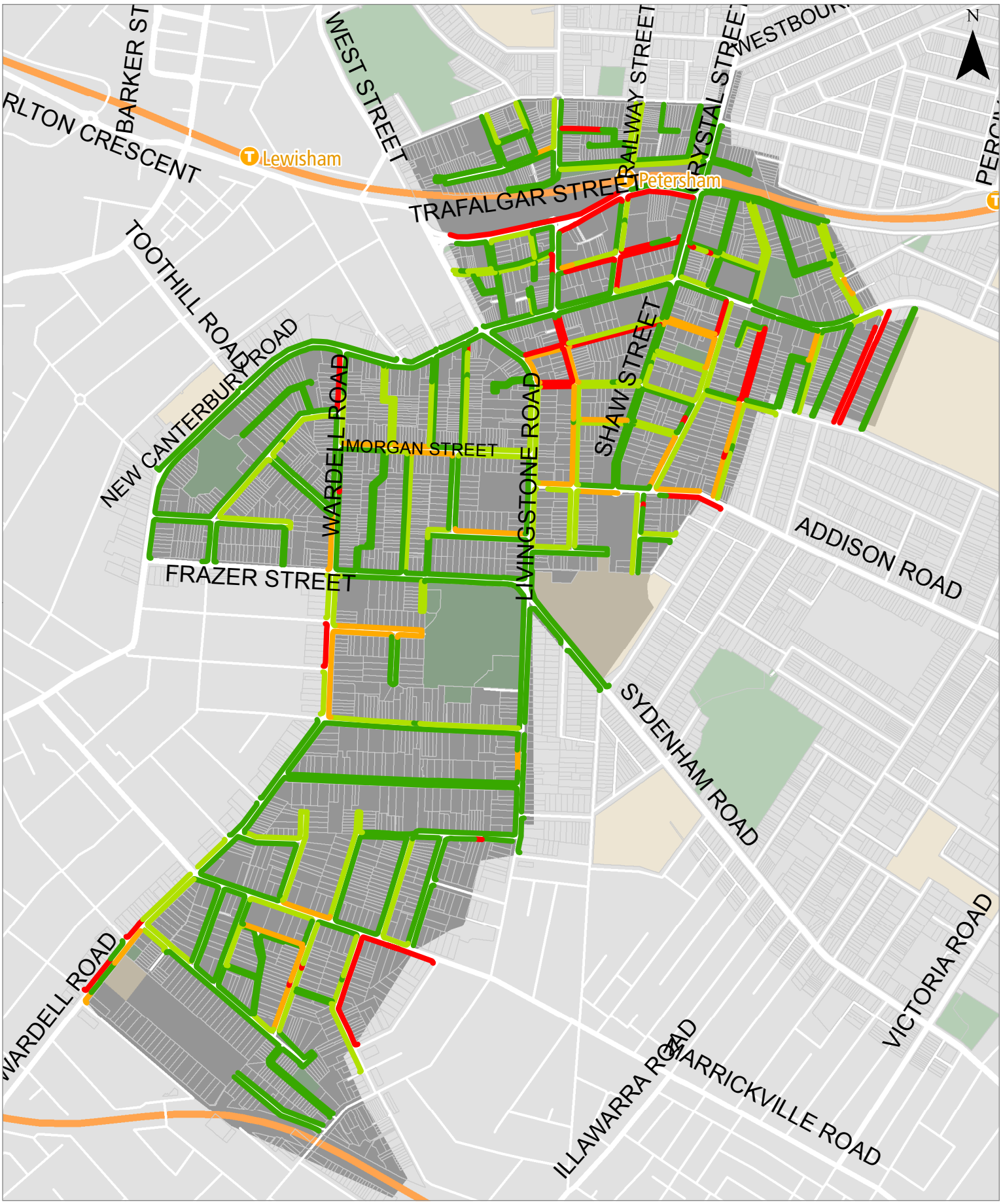
Thursday 10am

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

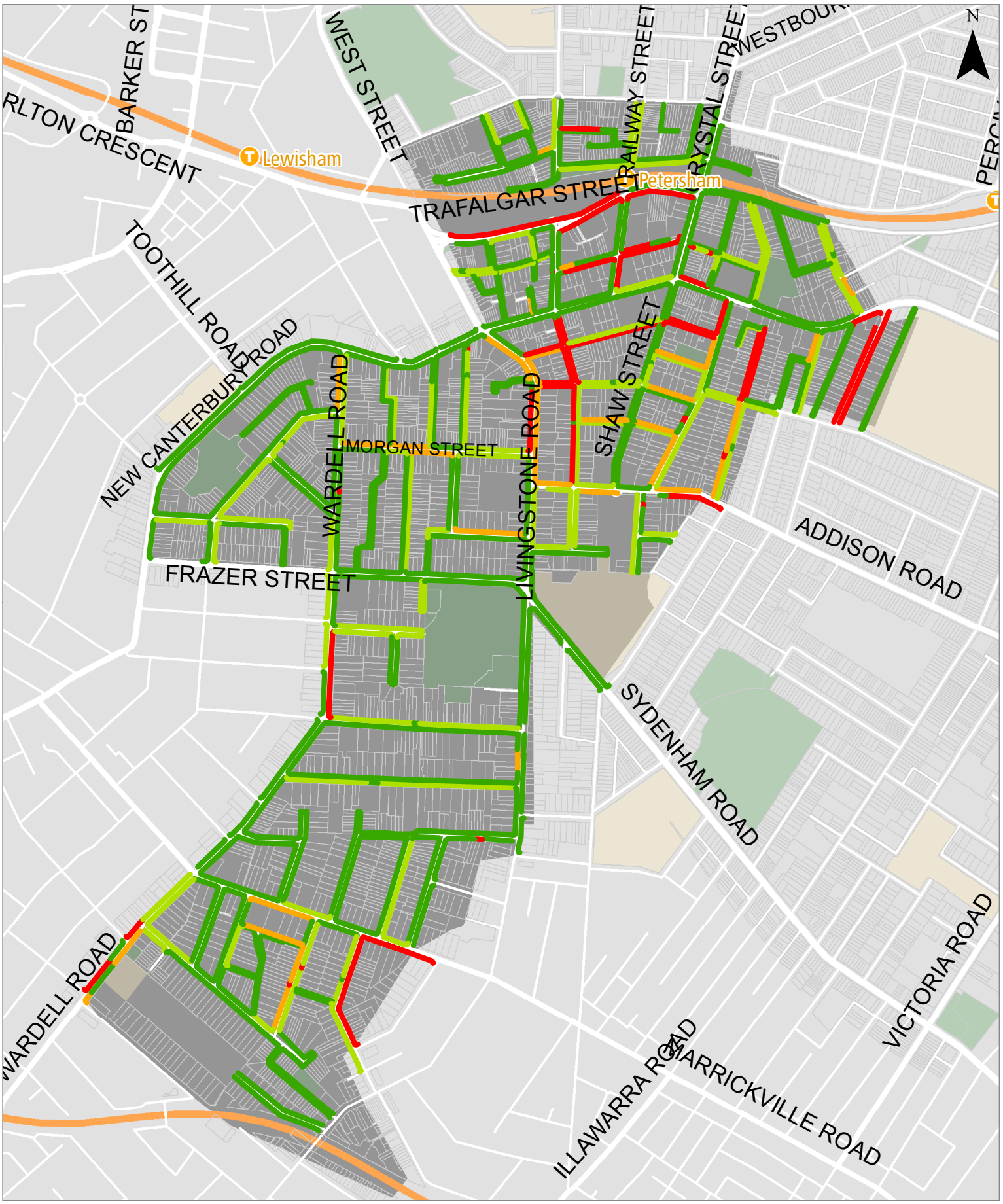
Thursday 11am

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

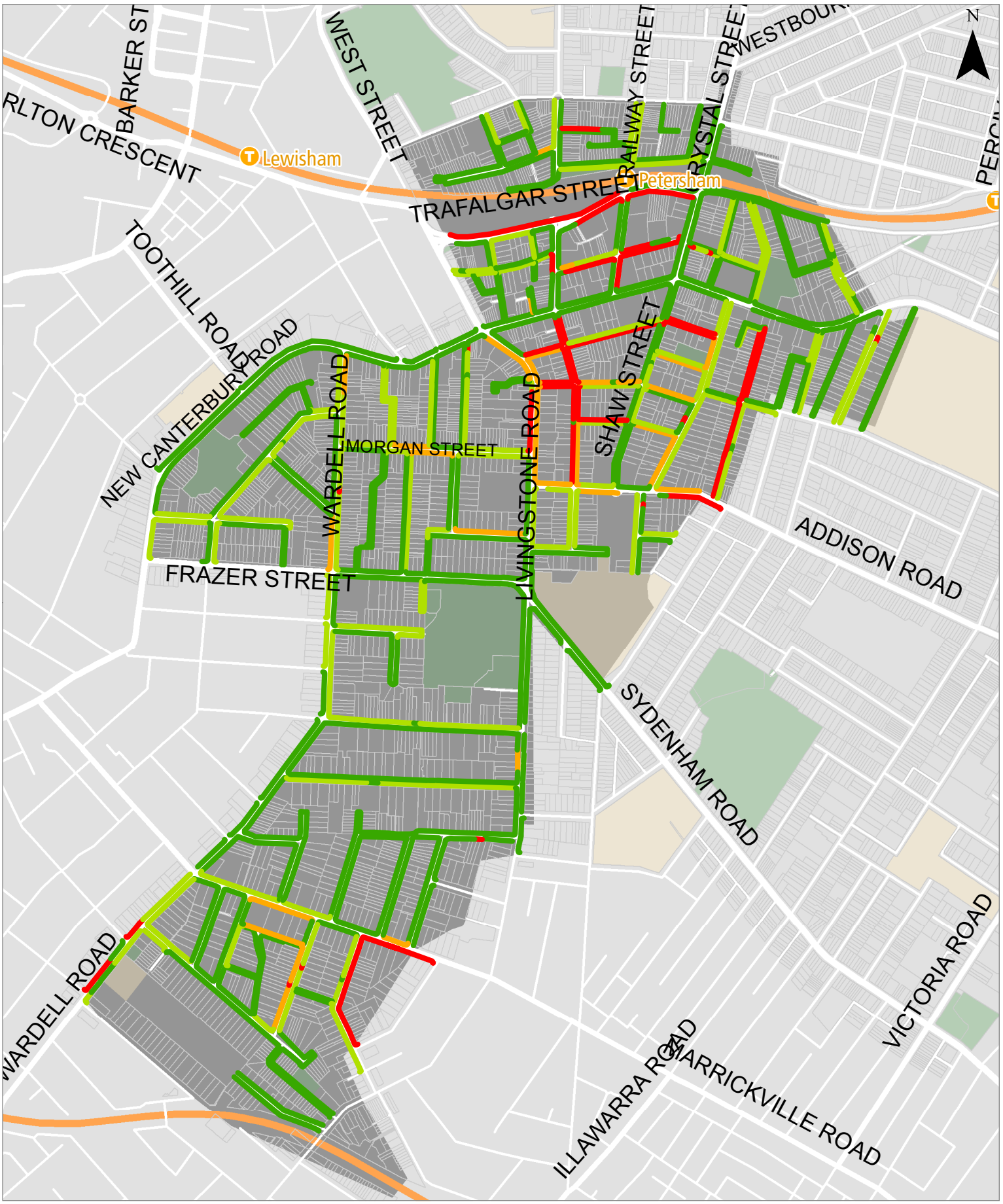
Thursday 12pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

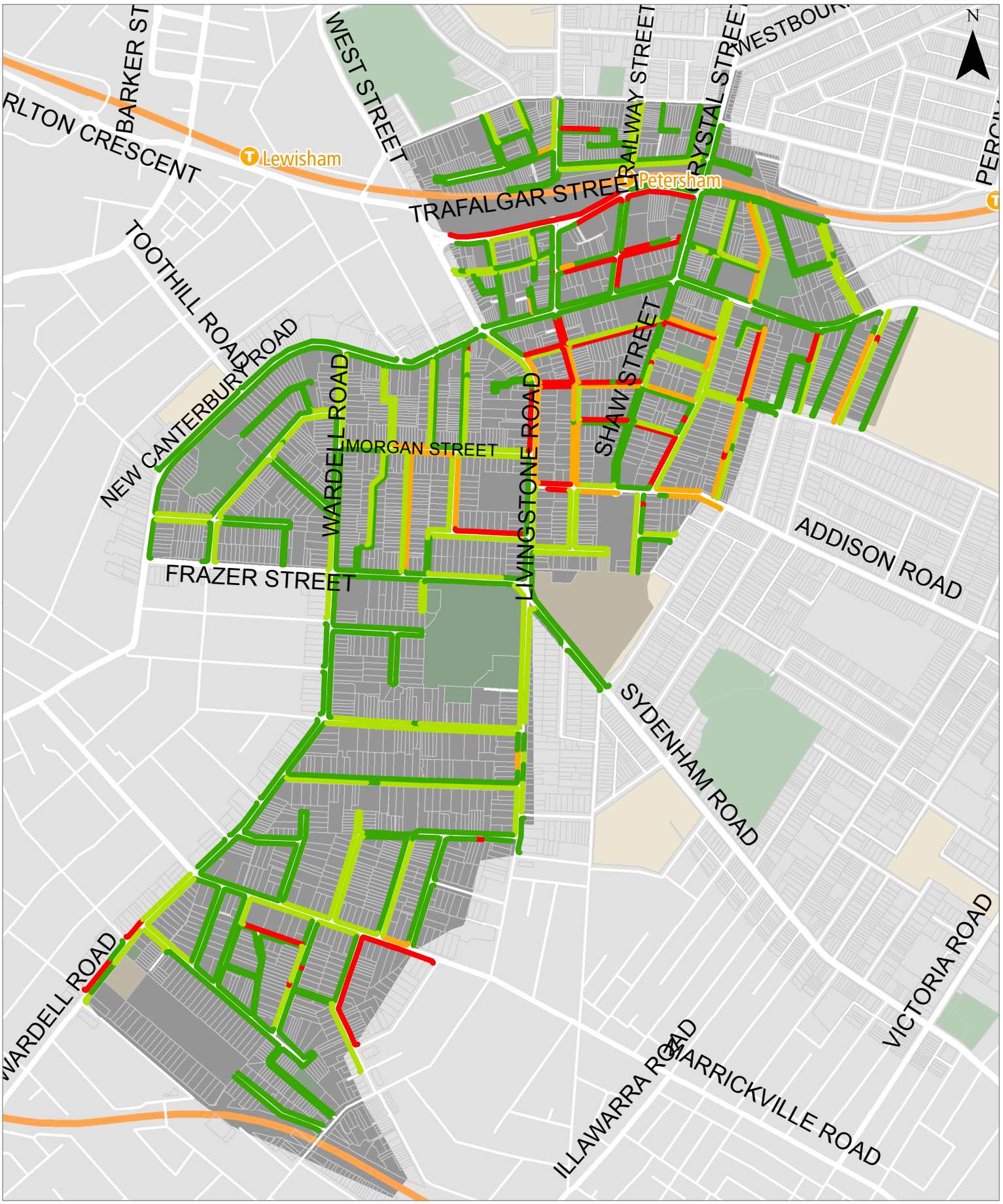
Thursday 1pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

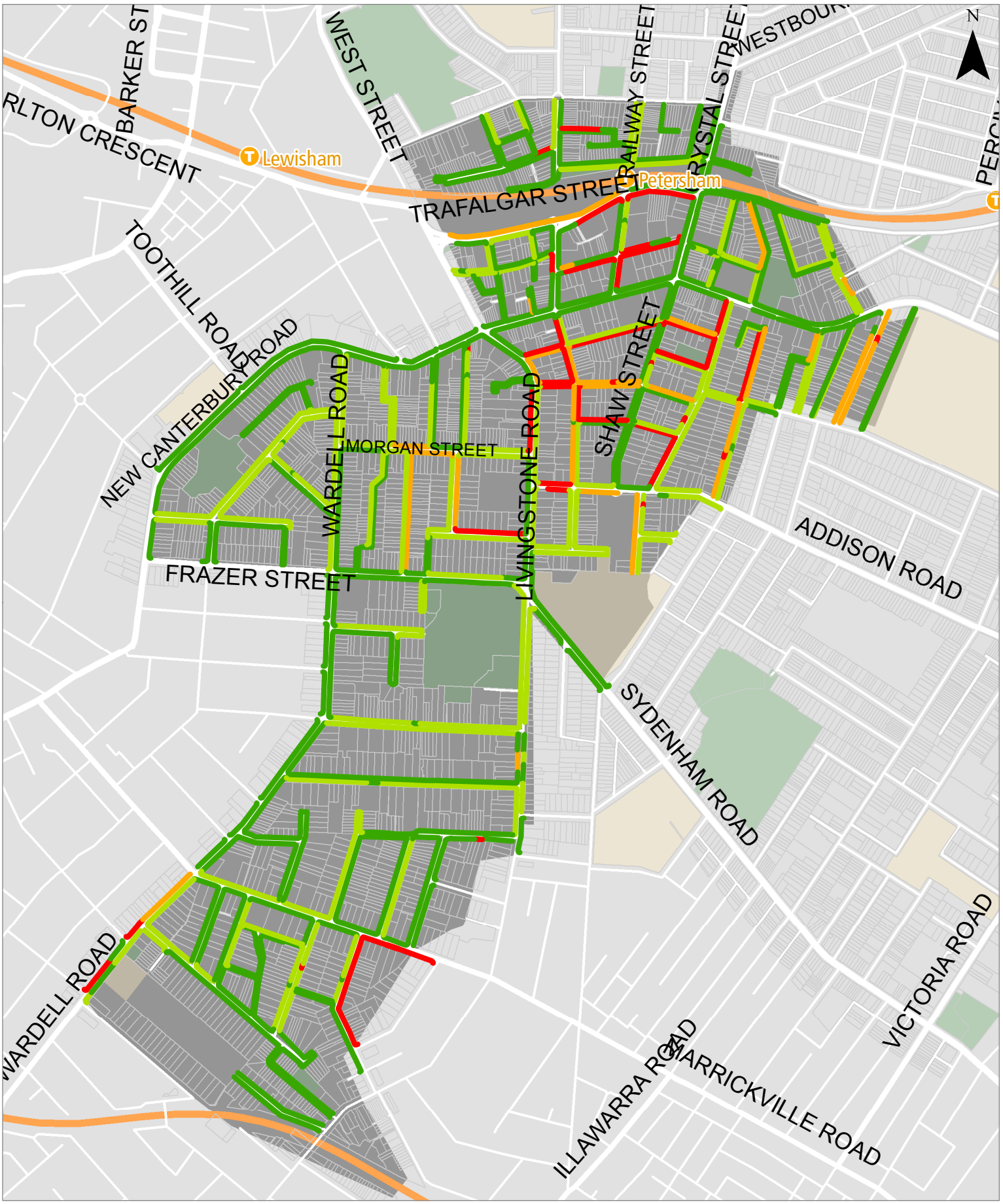
Thursday 2pm

Occupancy

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

ARUP

Petersham Parking Study



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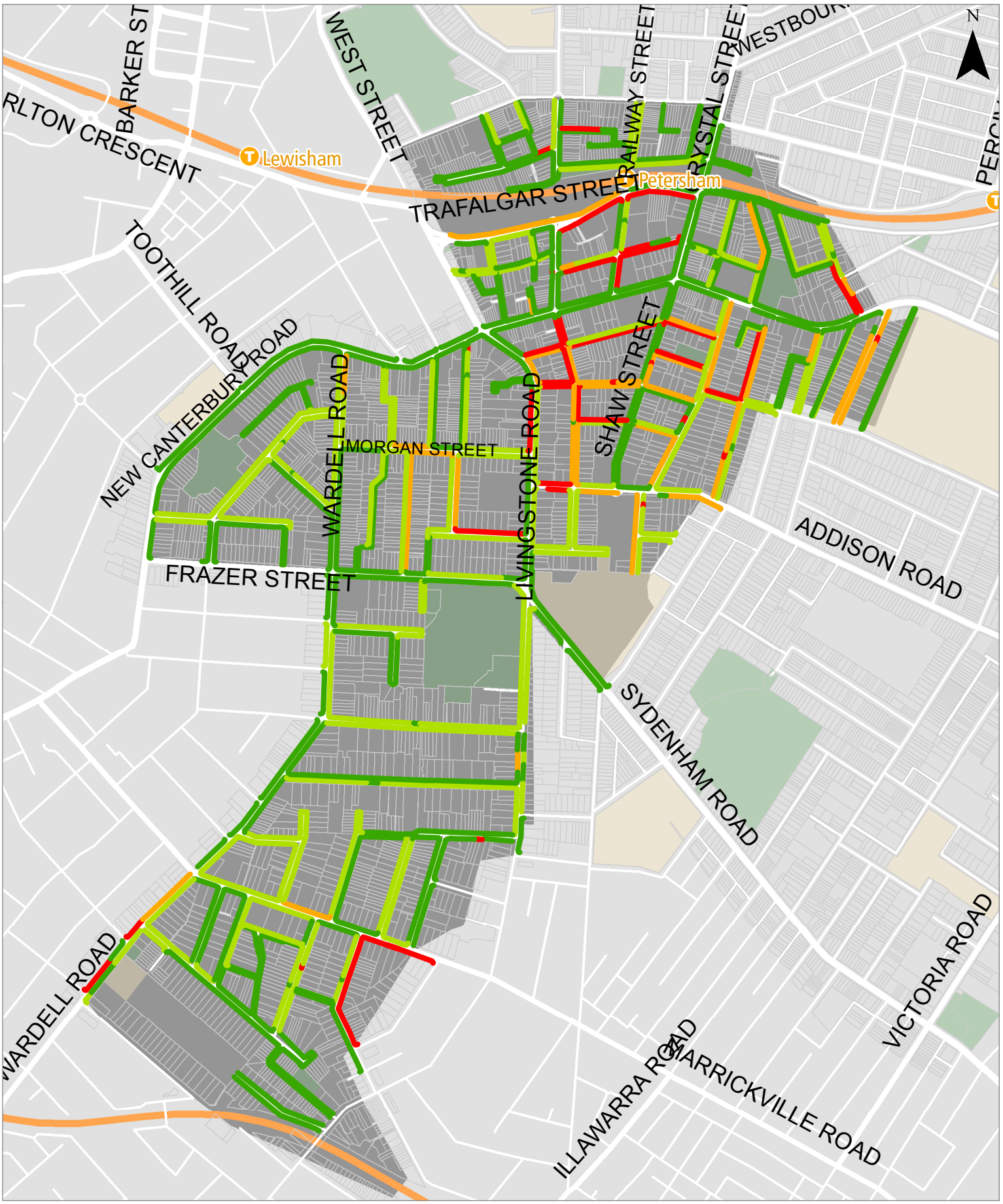
Petersham Parking Study



0 250 500 Meters

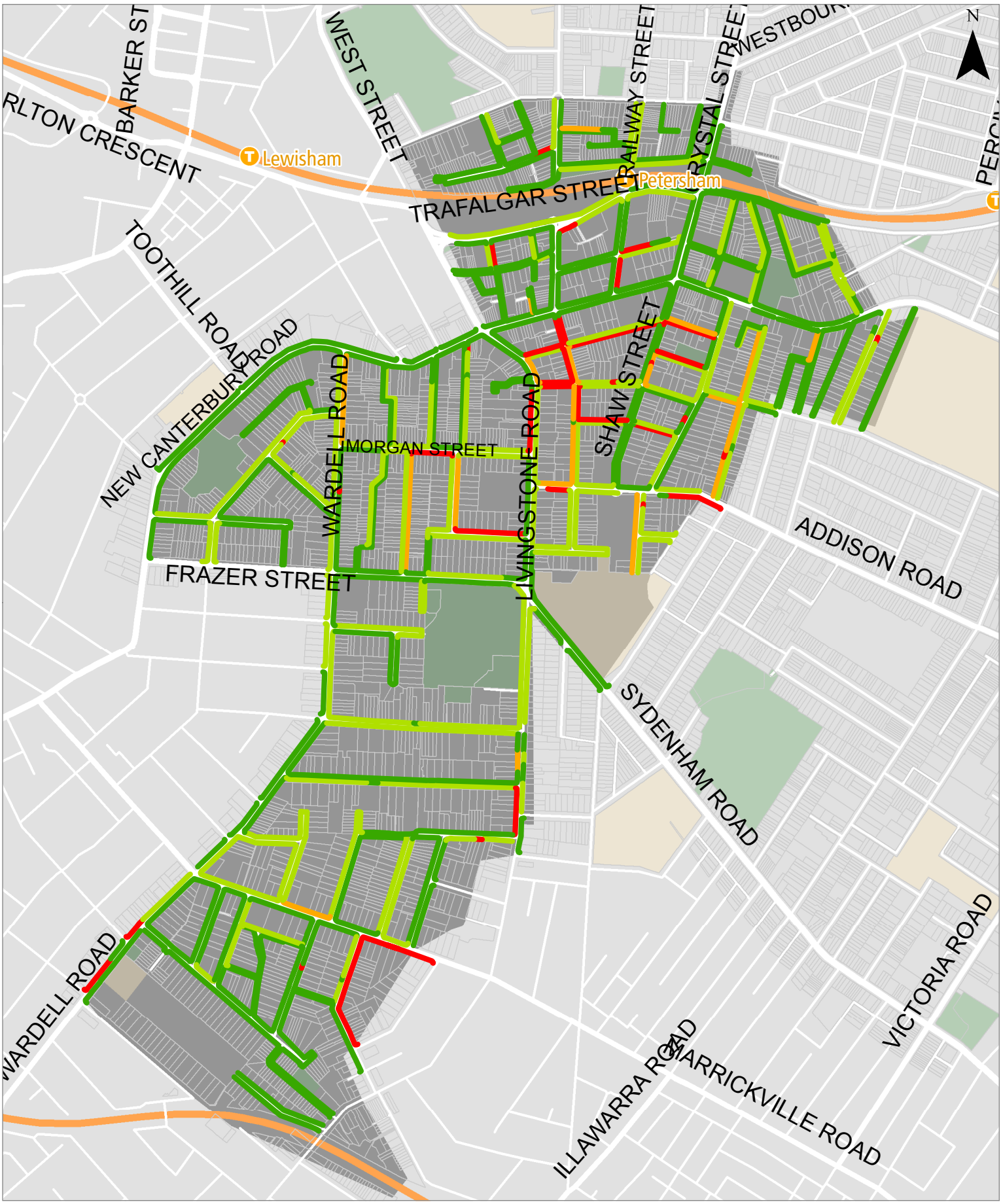
Thursday 4pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

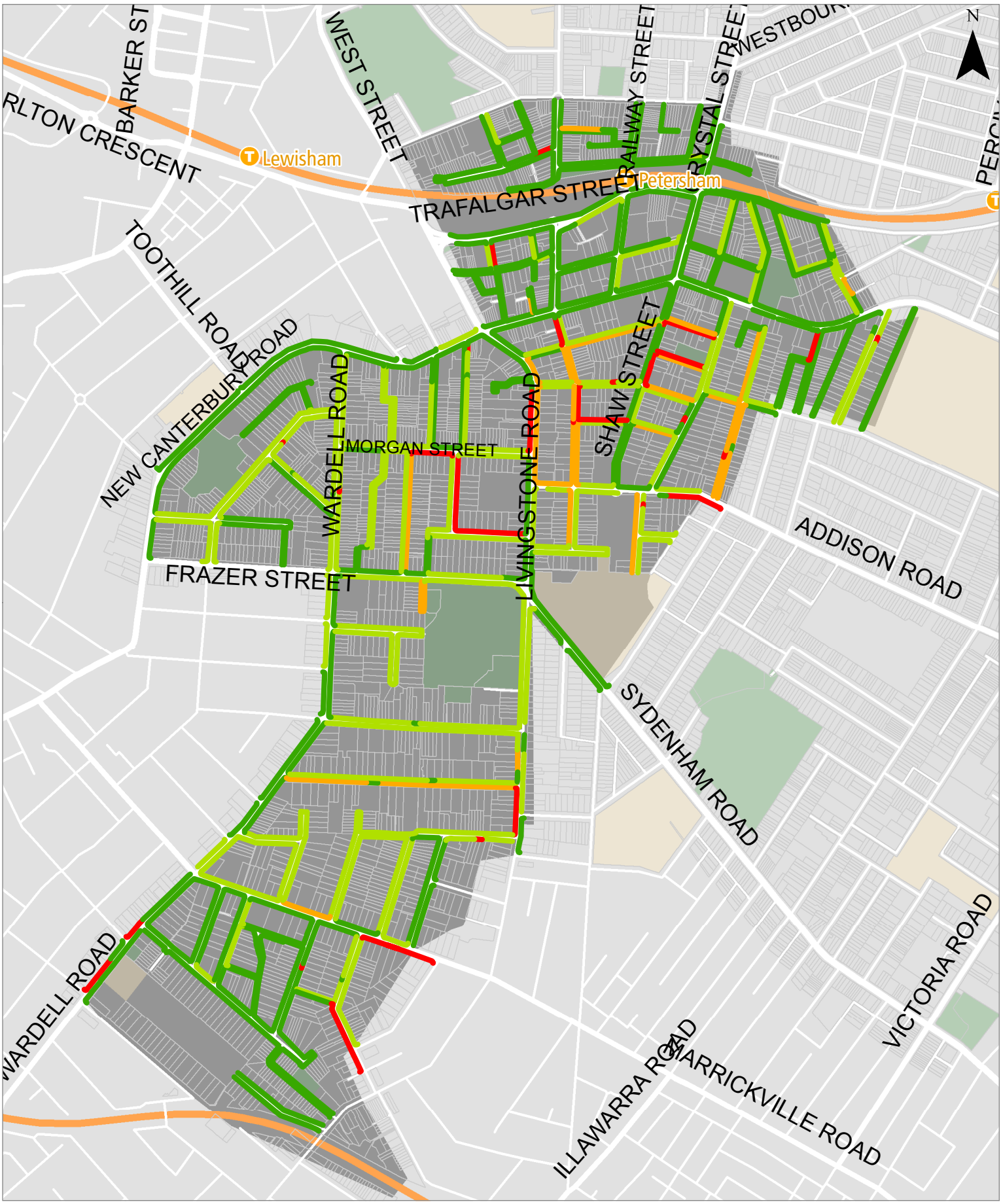
Thursday 5pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

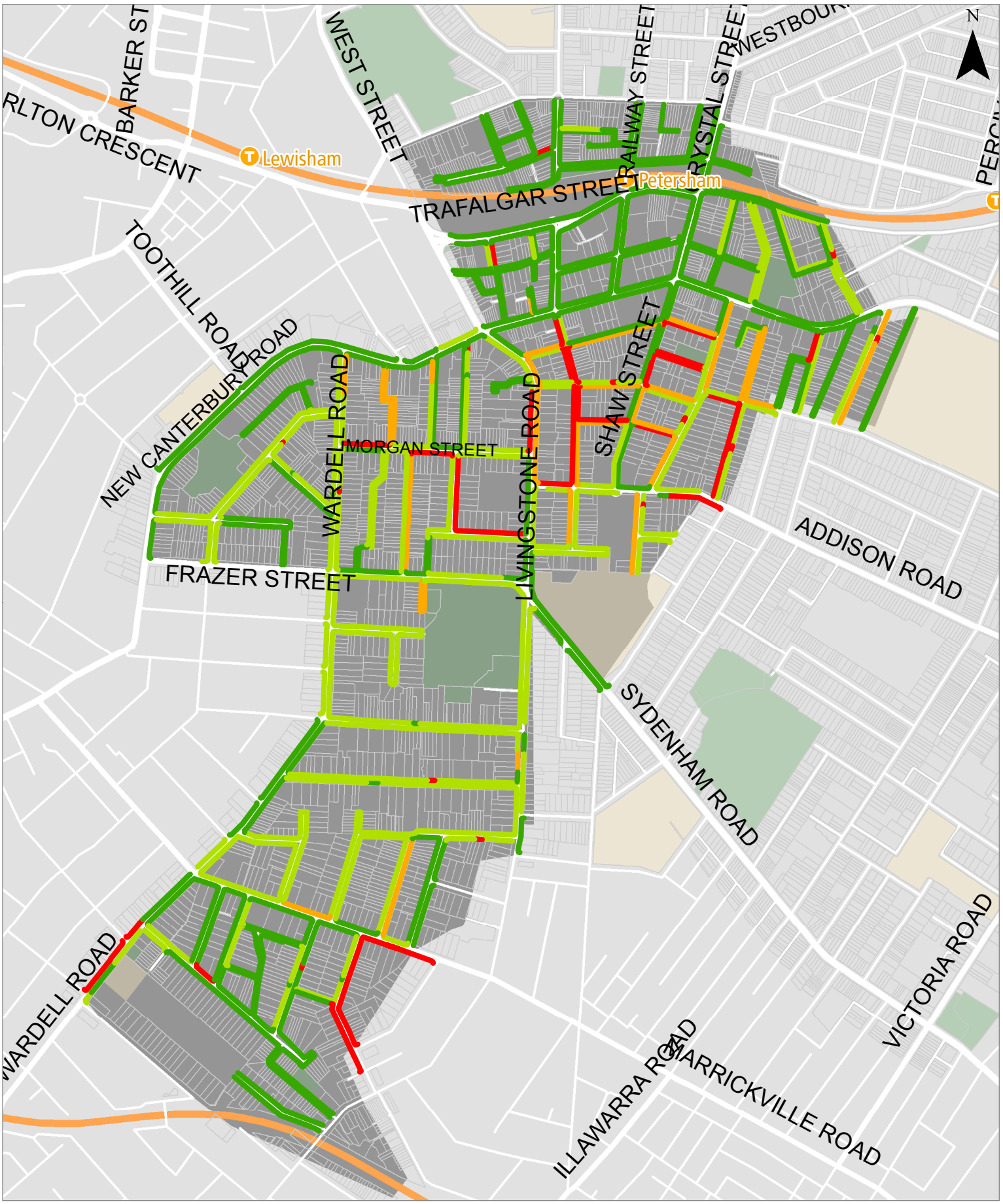
Thursday 6pm

Occupancy

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

ARUP

Petersham Parking Study



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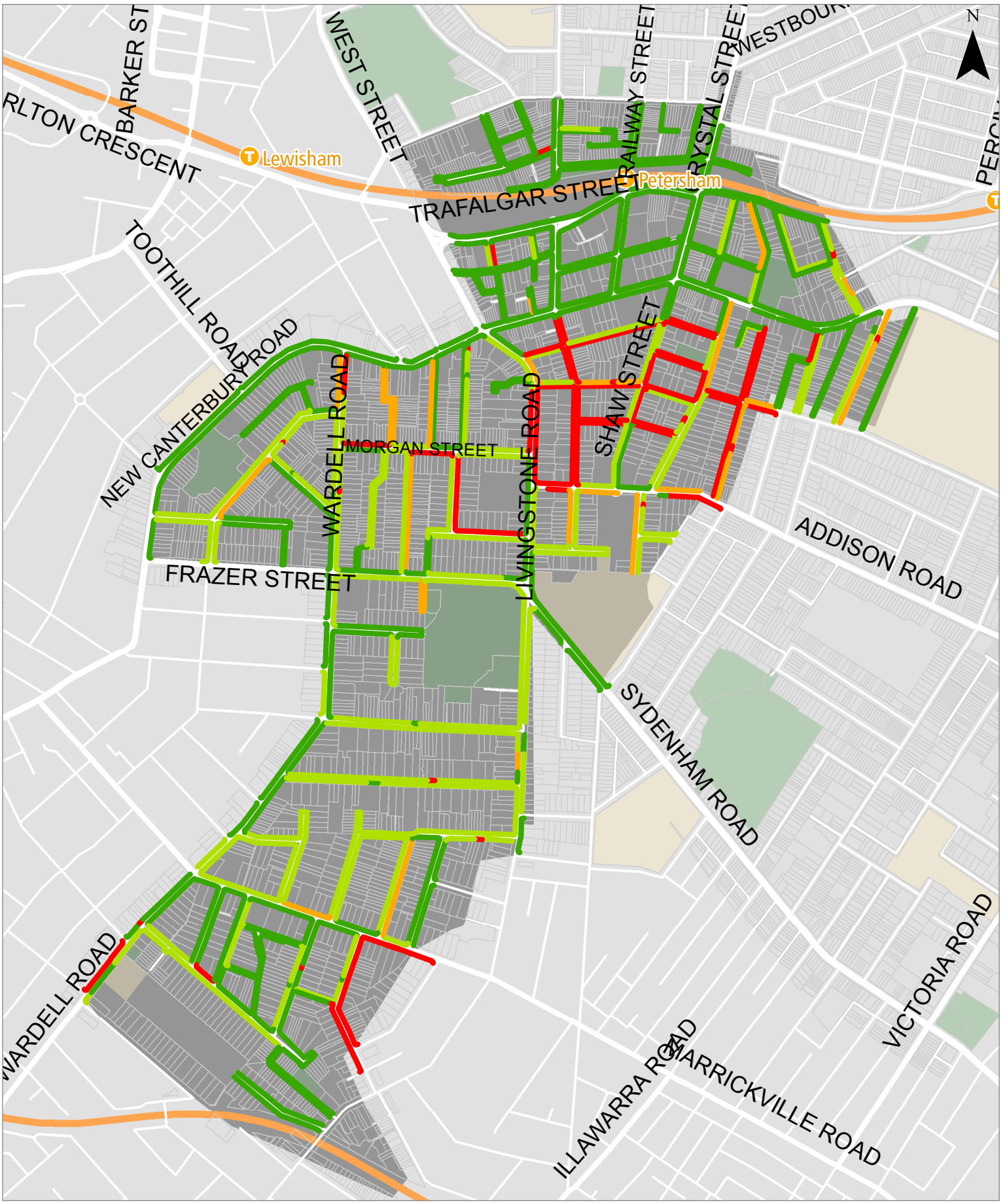
Petersham Parking Study



0 250 500 Meters

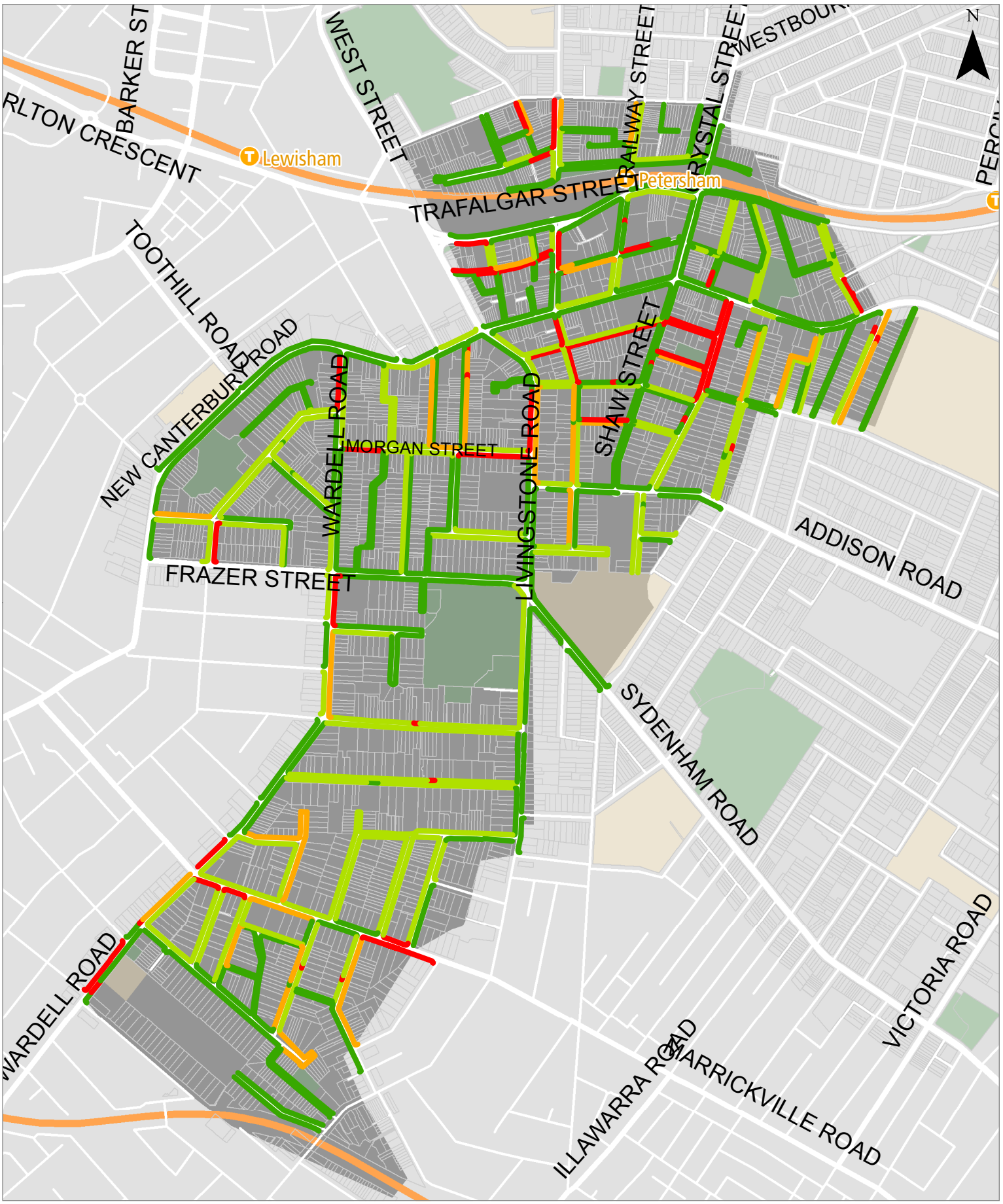
Thursday 8pm

Occupancy

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

ARUP

Petersham Parking Study



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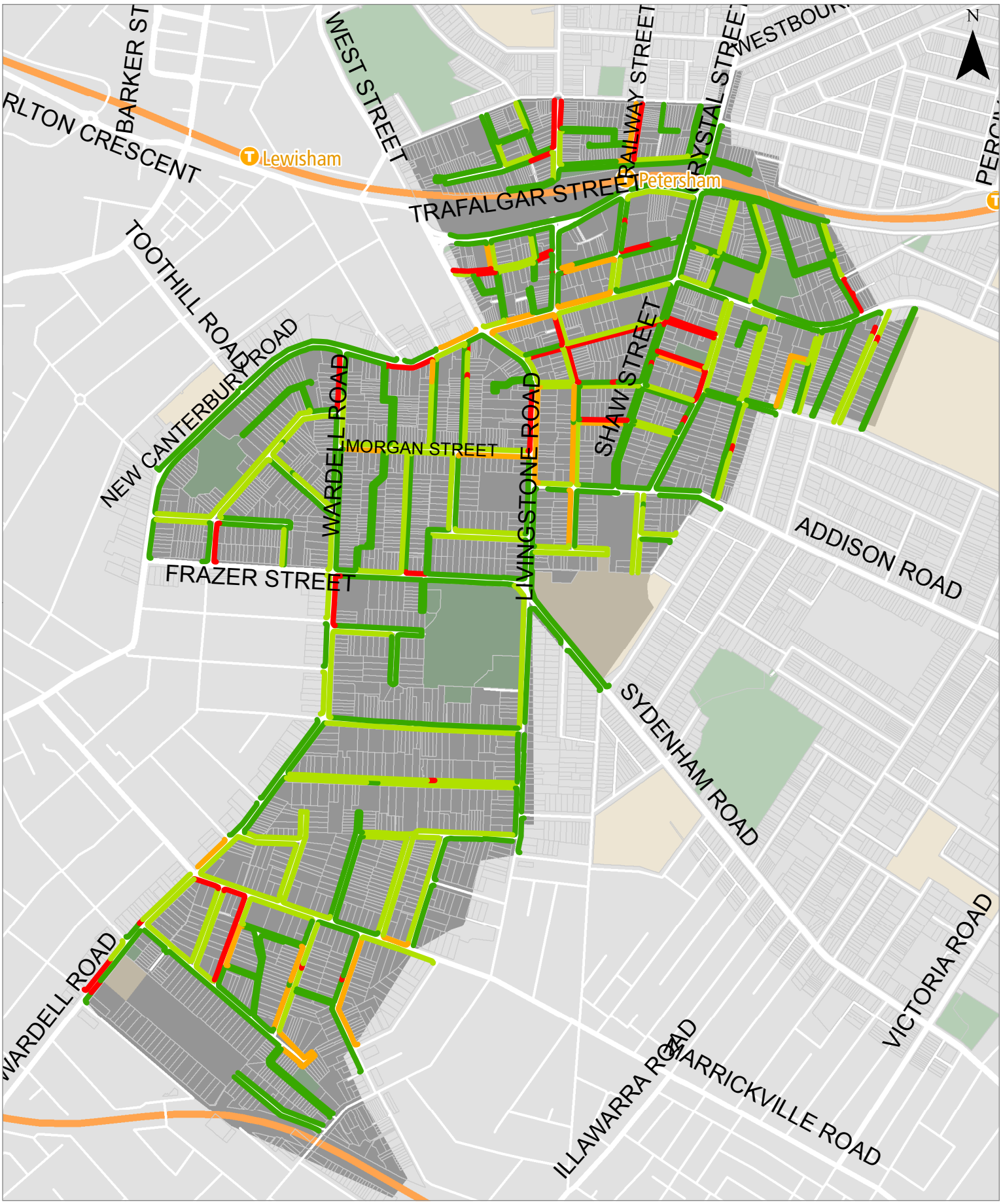


0 250 500 Meters

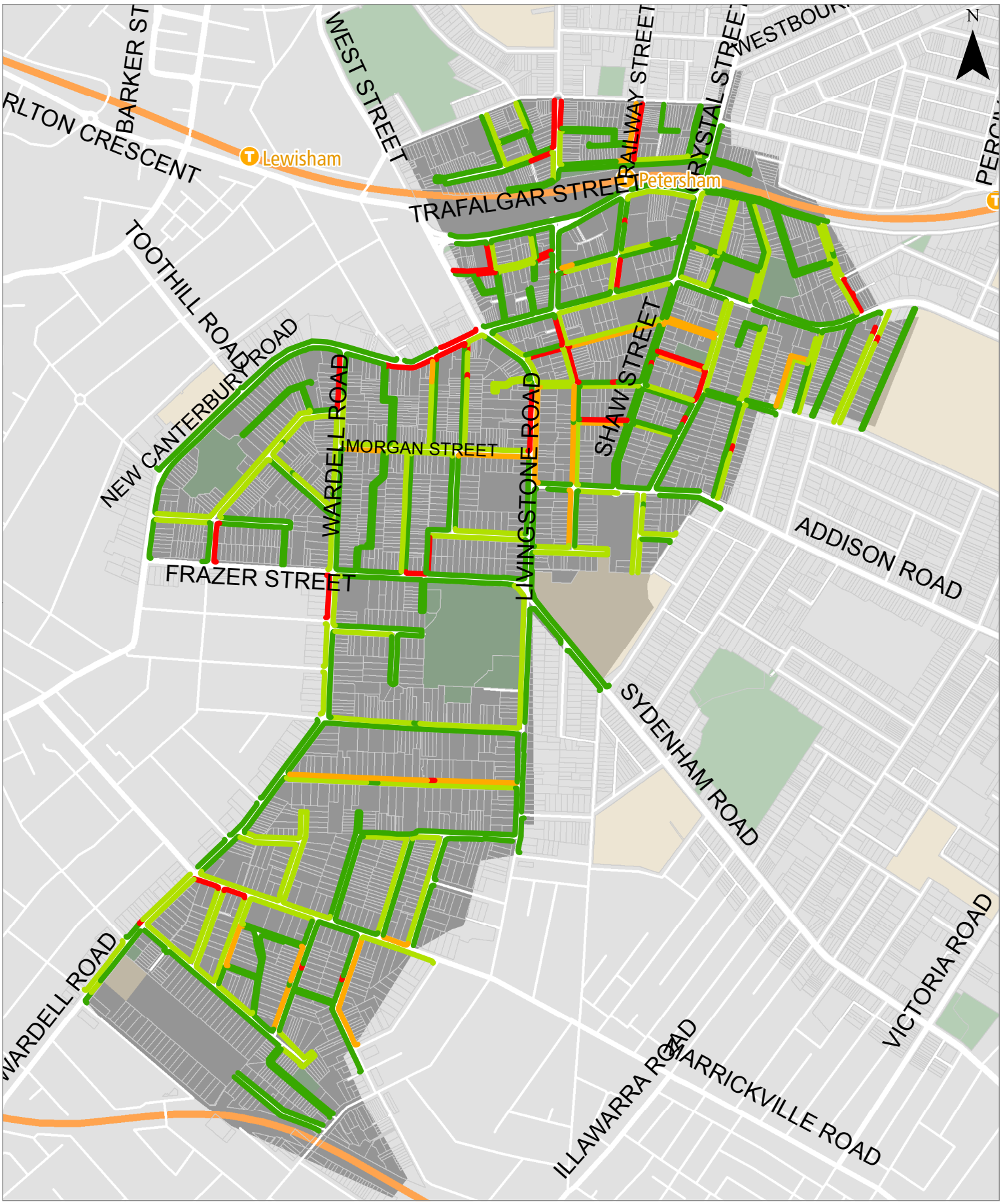
Saturday 11am

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

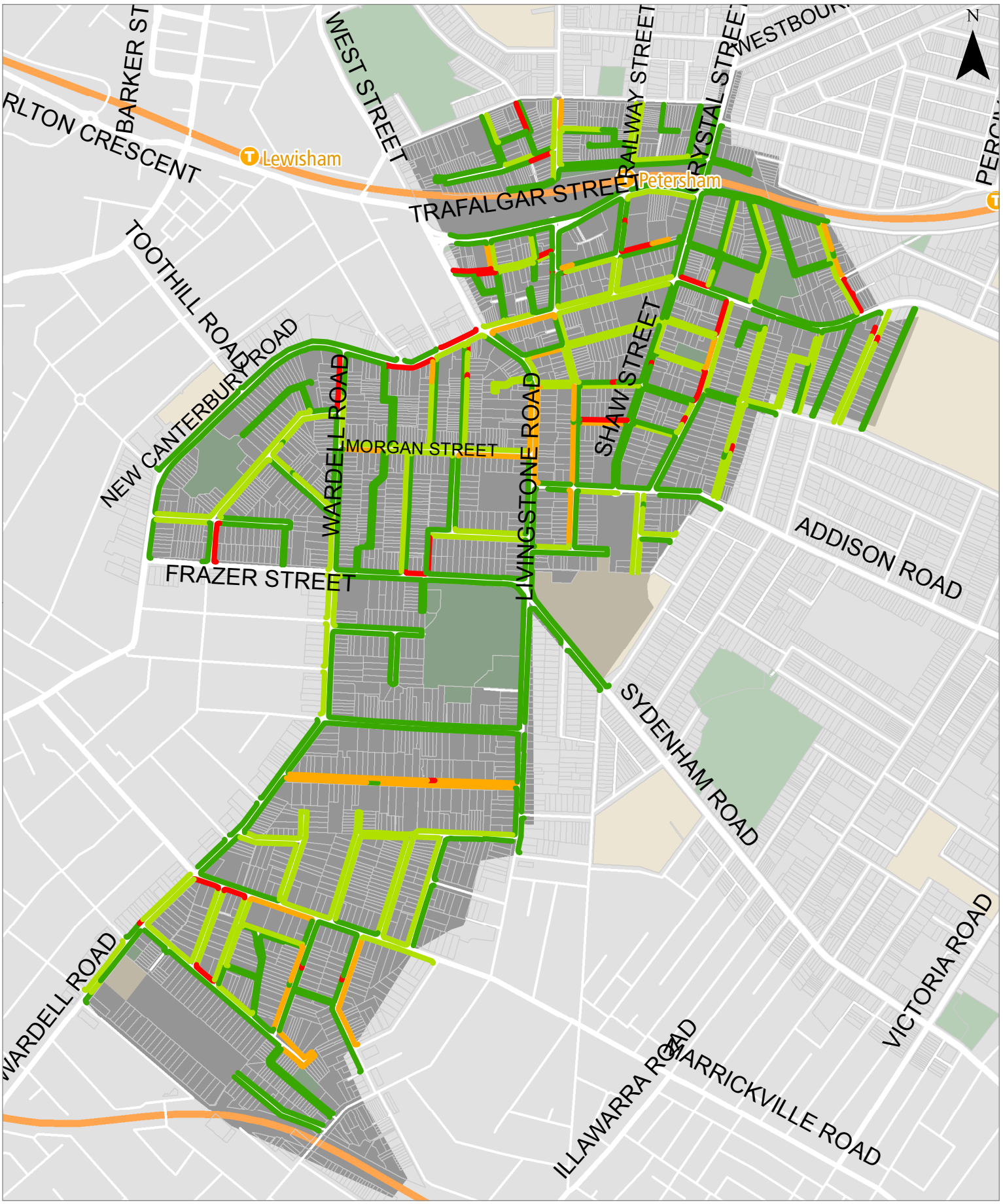
Saturday 12pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

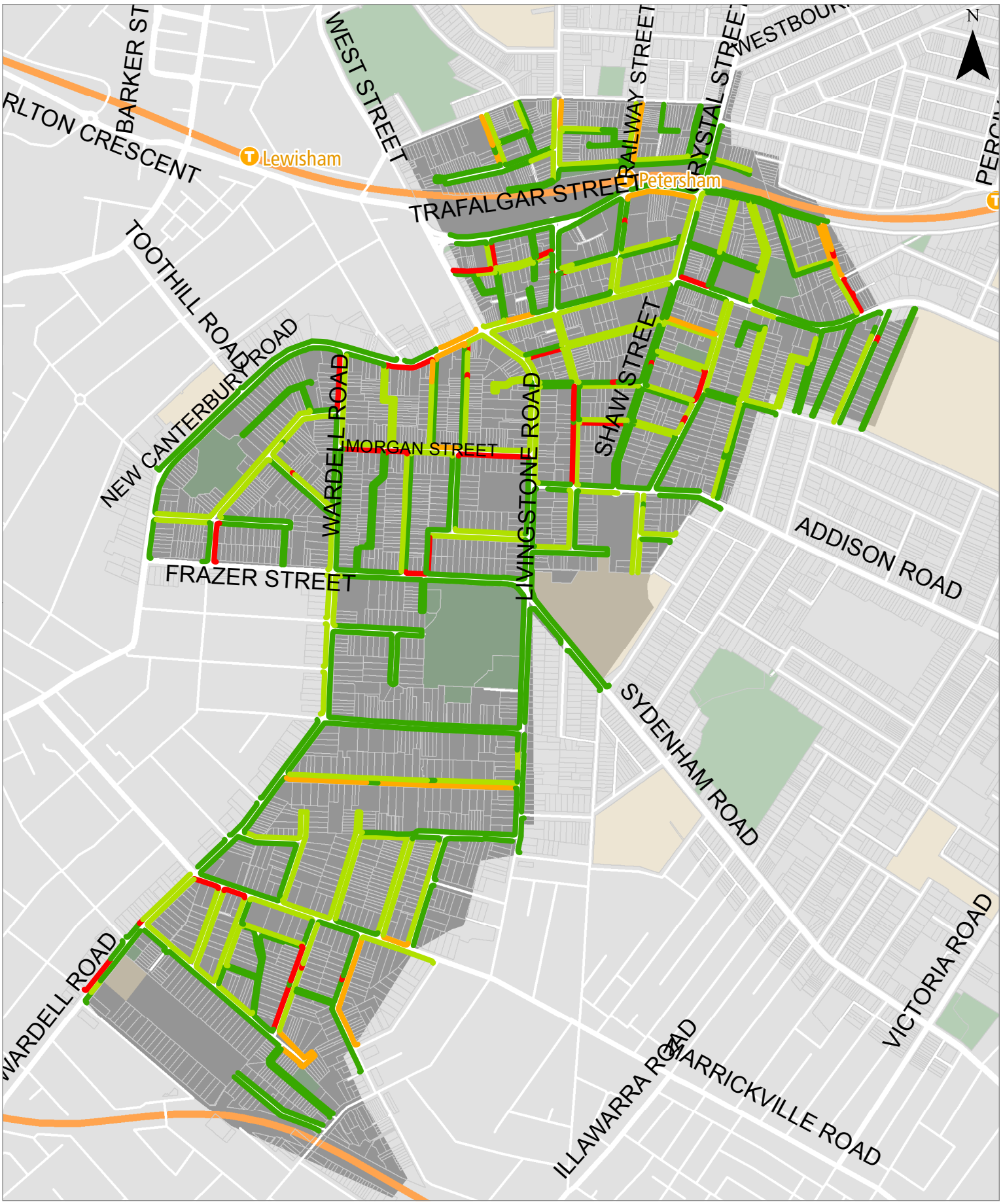
Saturday 1pm

Occupancy

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

ARUP

Petersham Parking Study



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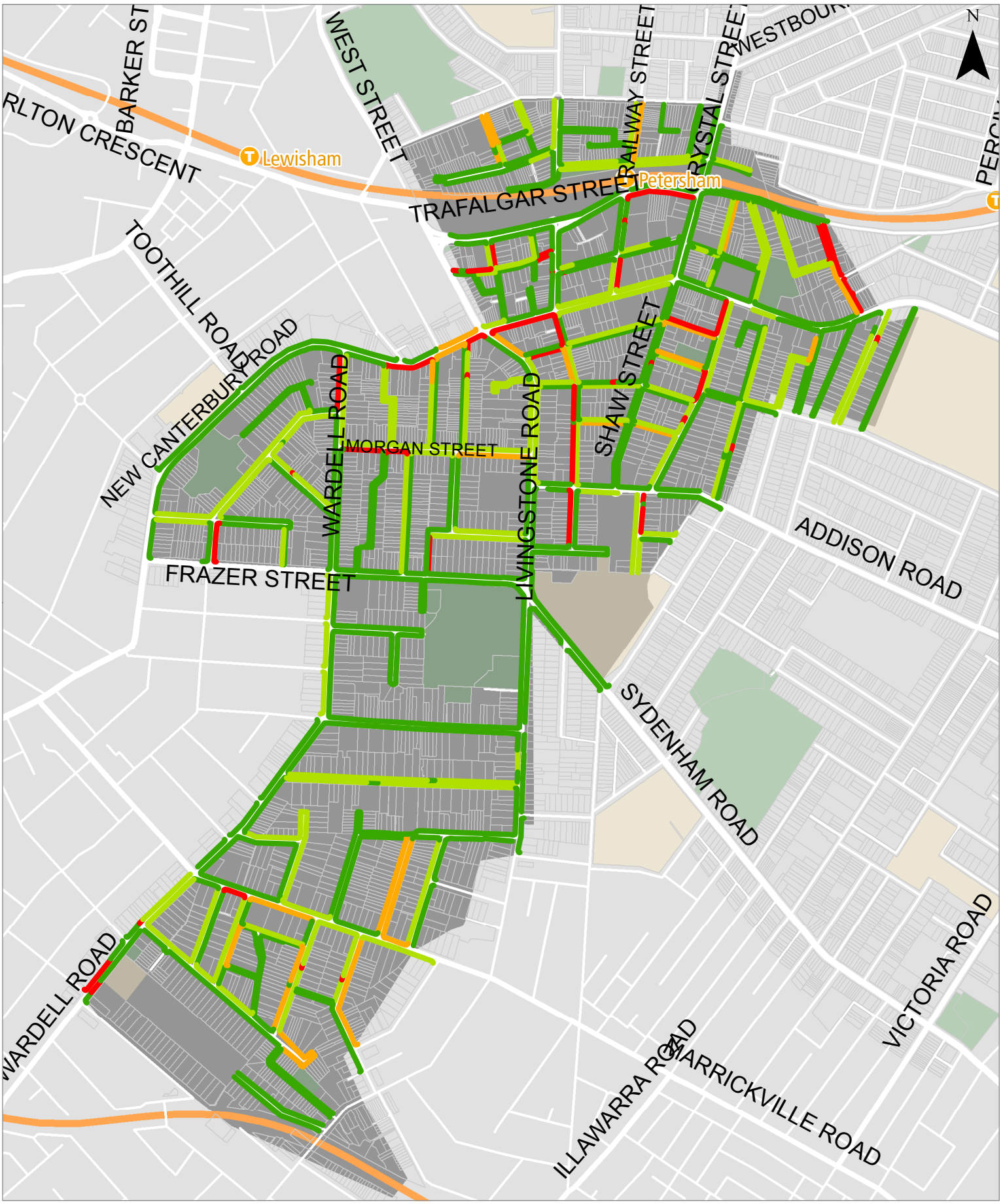
Petersham Parking Study



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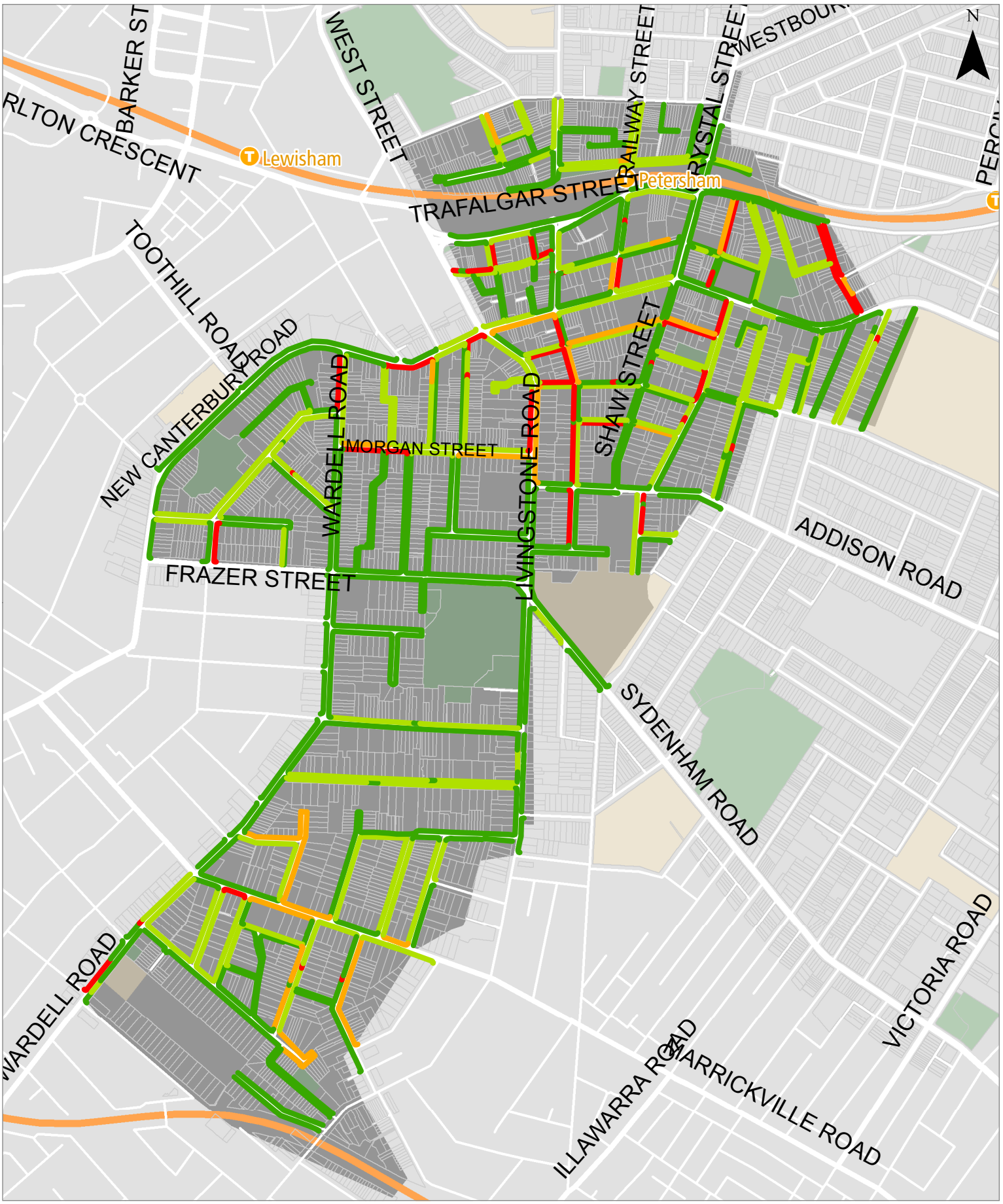
Petersham Parking Study



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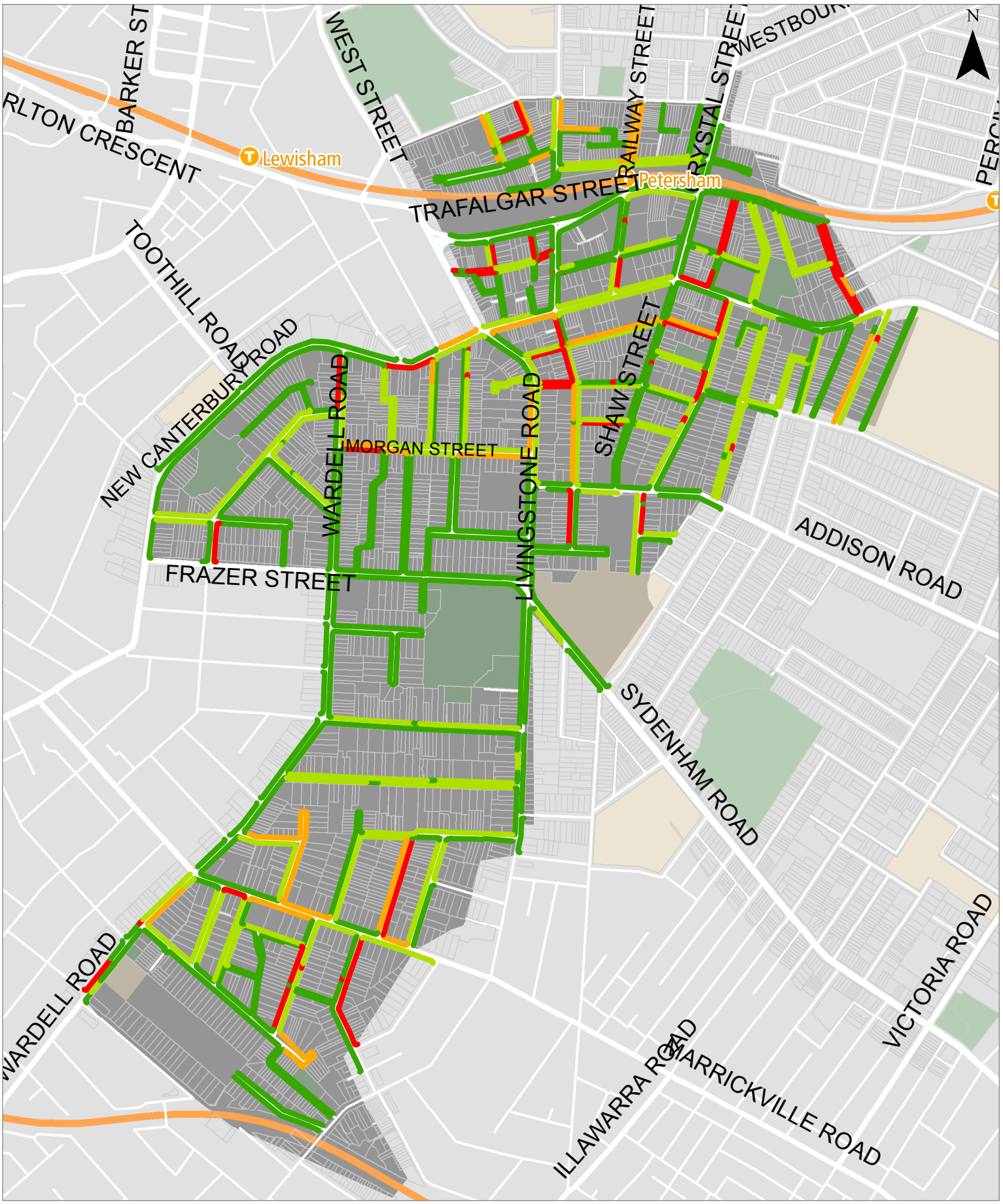


0 250 500 Meters

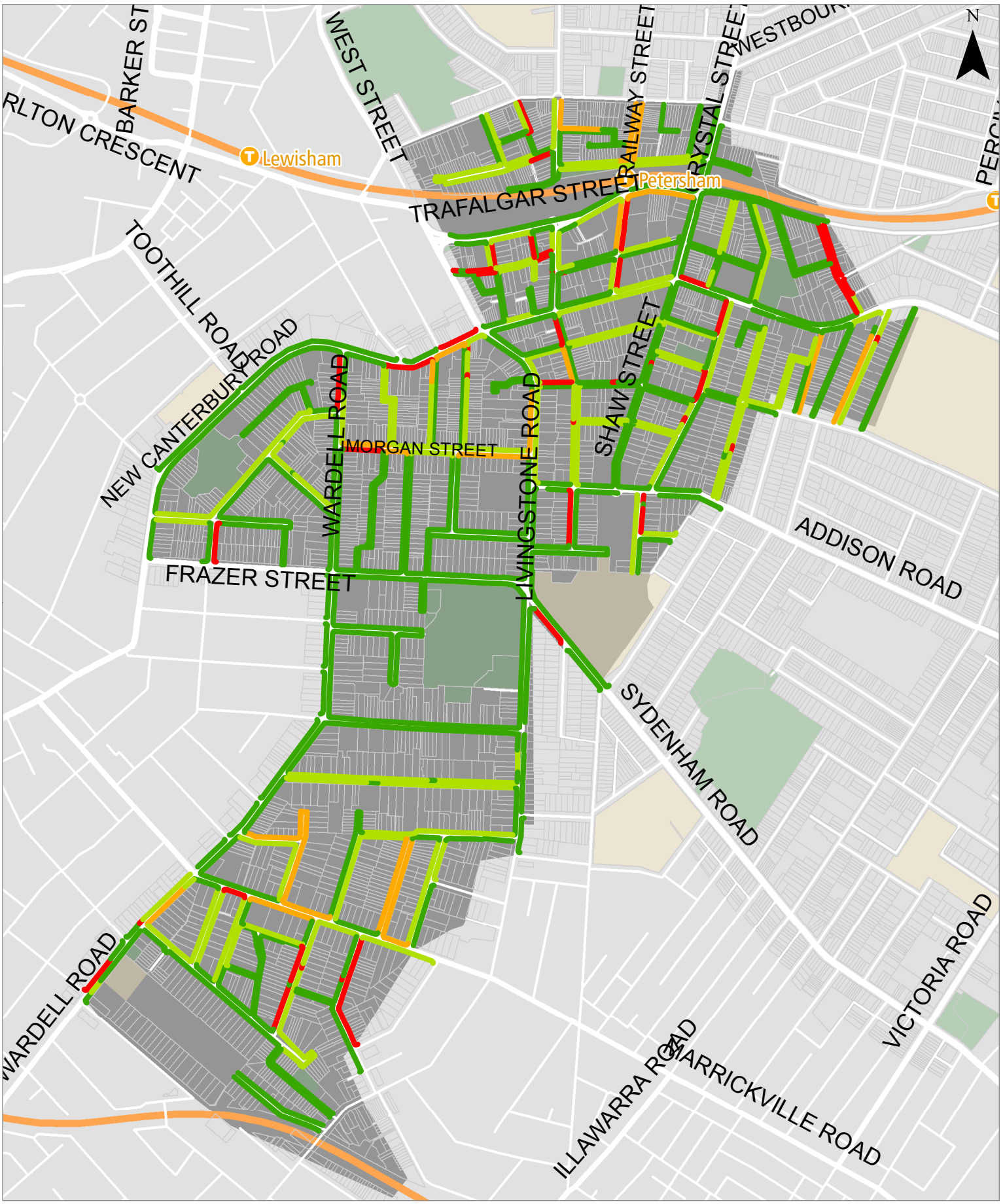
Saturday 5pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

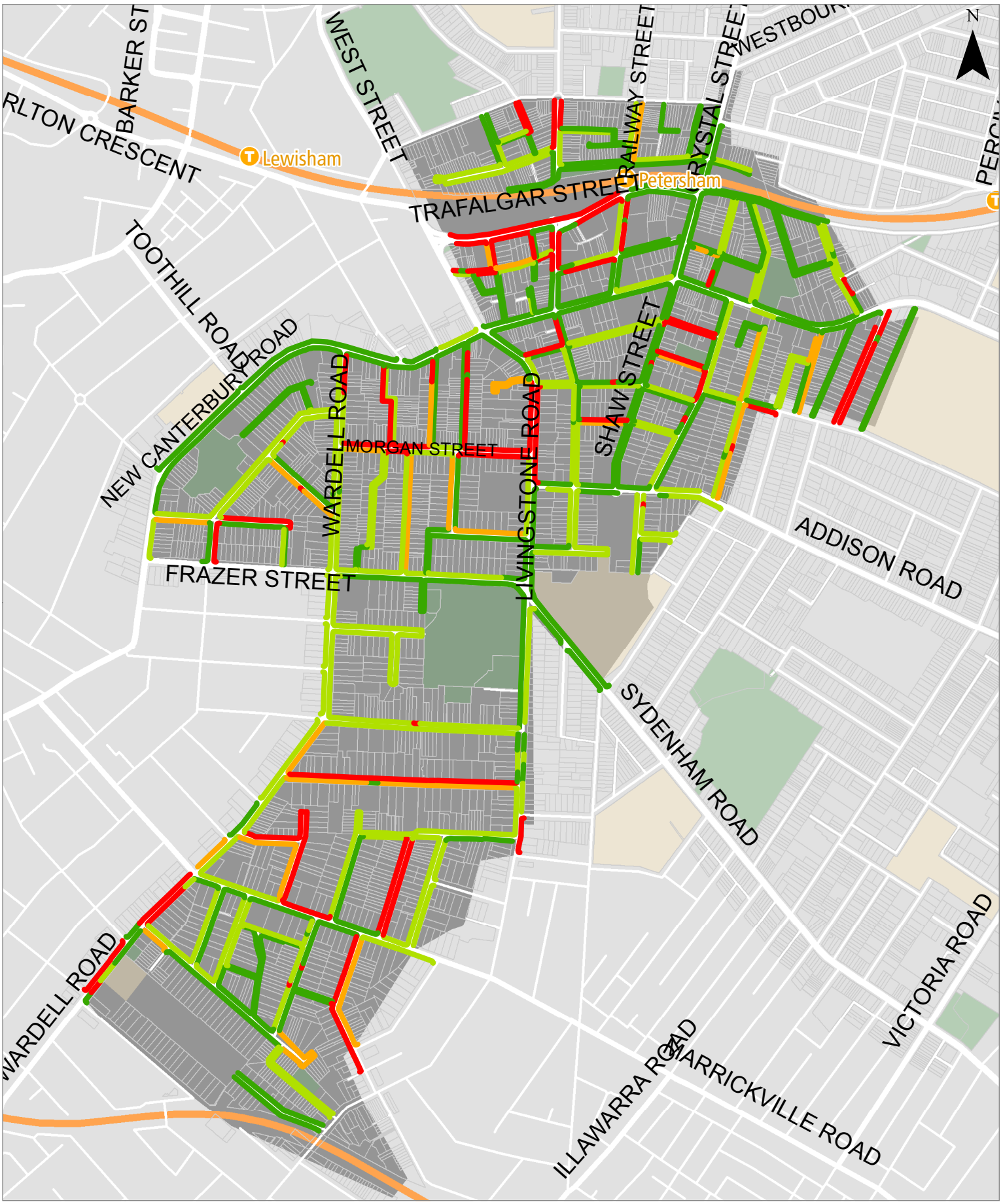
Saturday 6pm

Occupancy

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

ARUP

Petersham Parking Study



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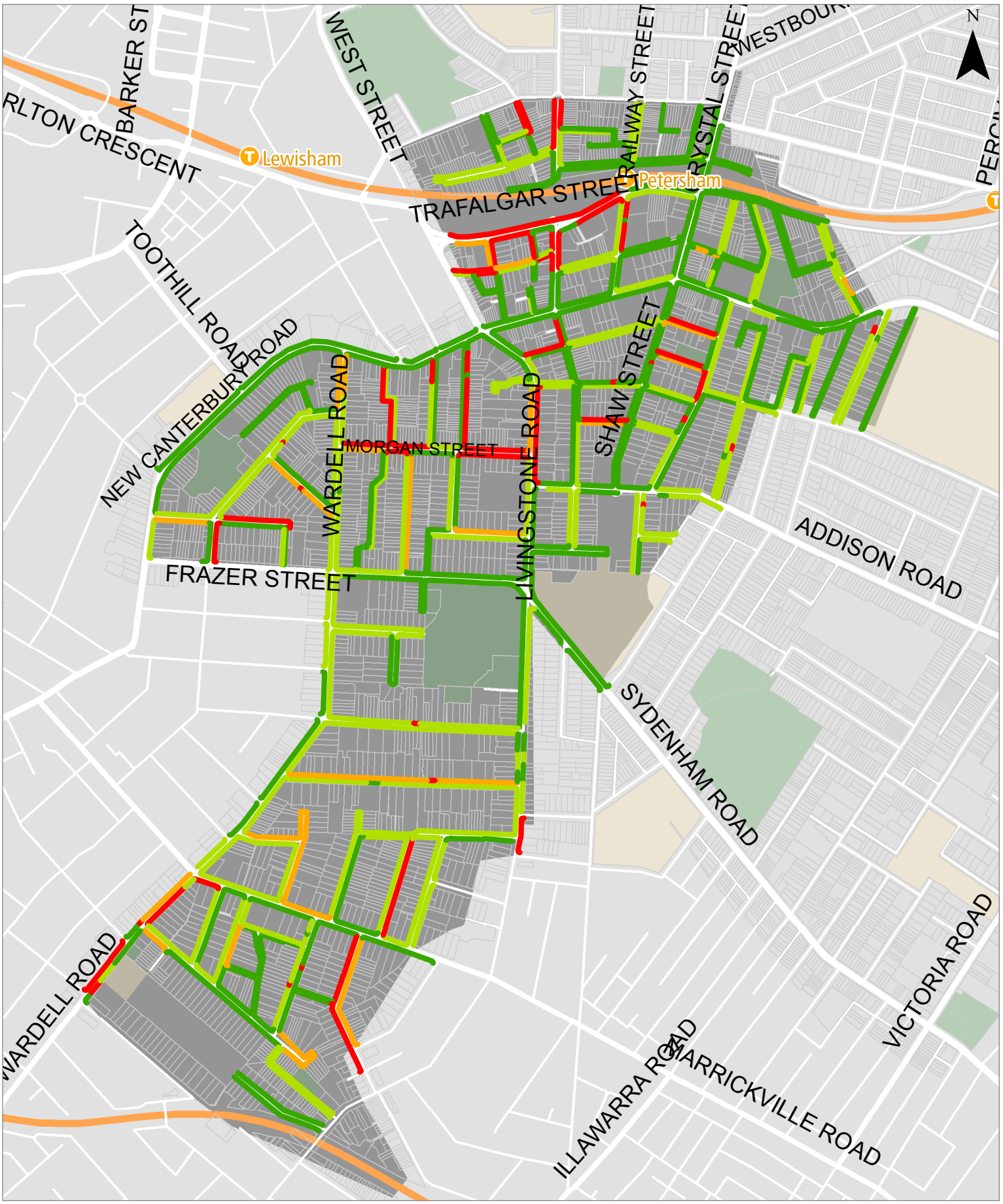
Petersham Parking Study



0 250 500 Meters

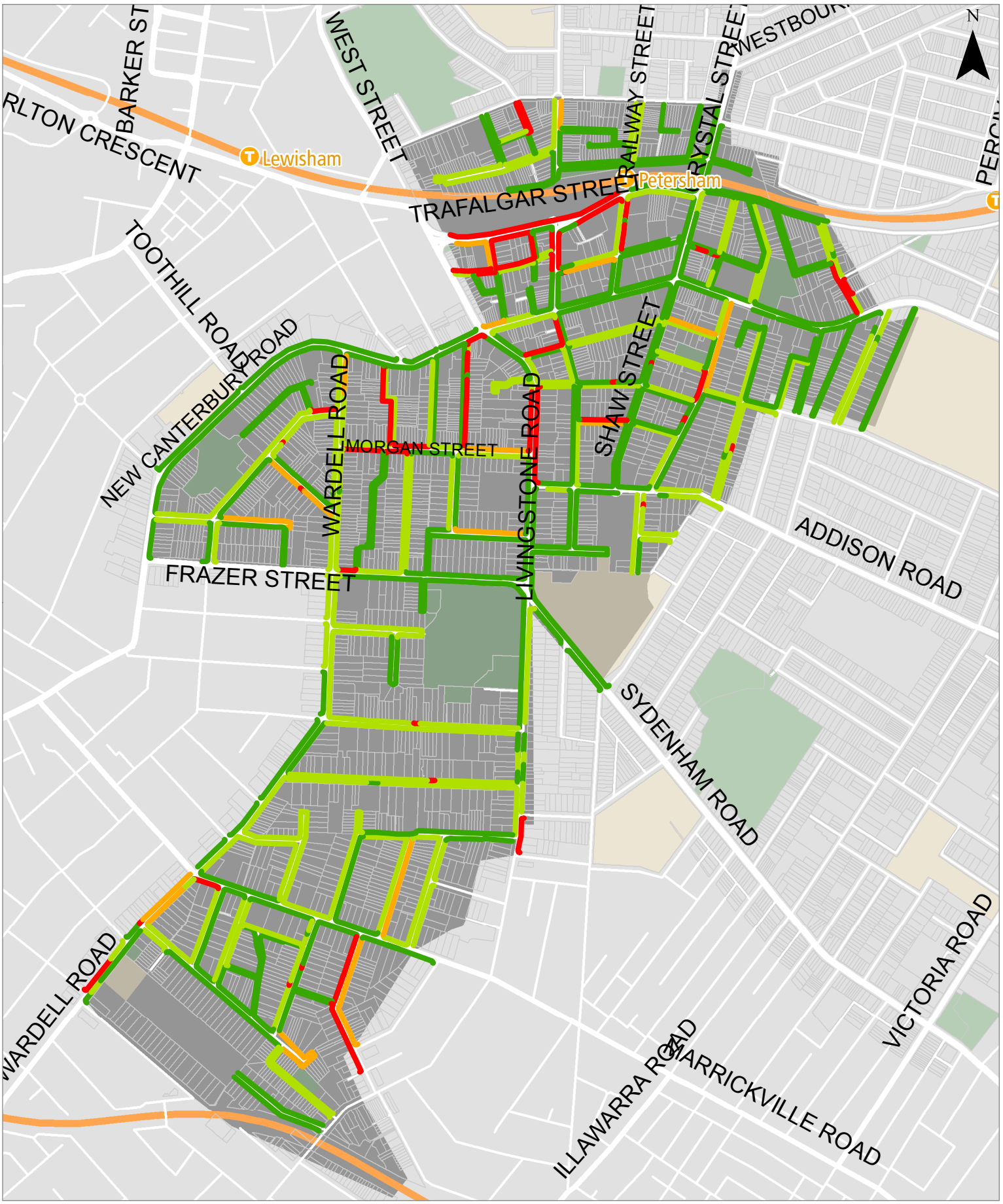
Sunday 9am

Occupancy

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

ARUP

Petersham Parking Study



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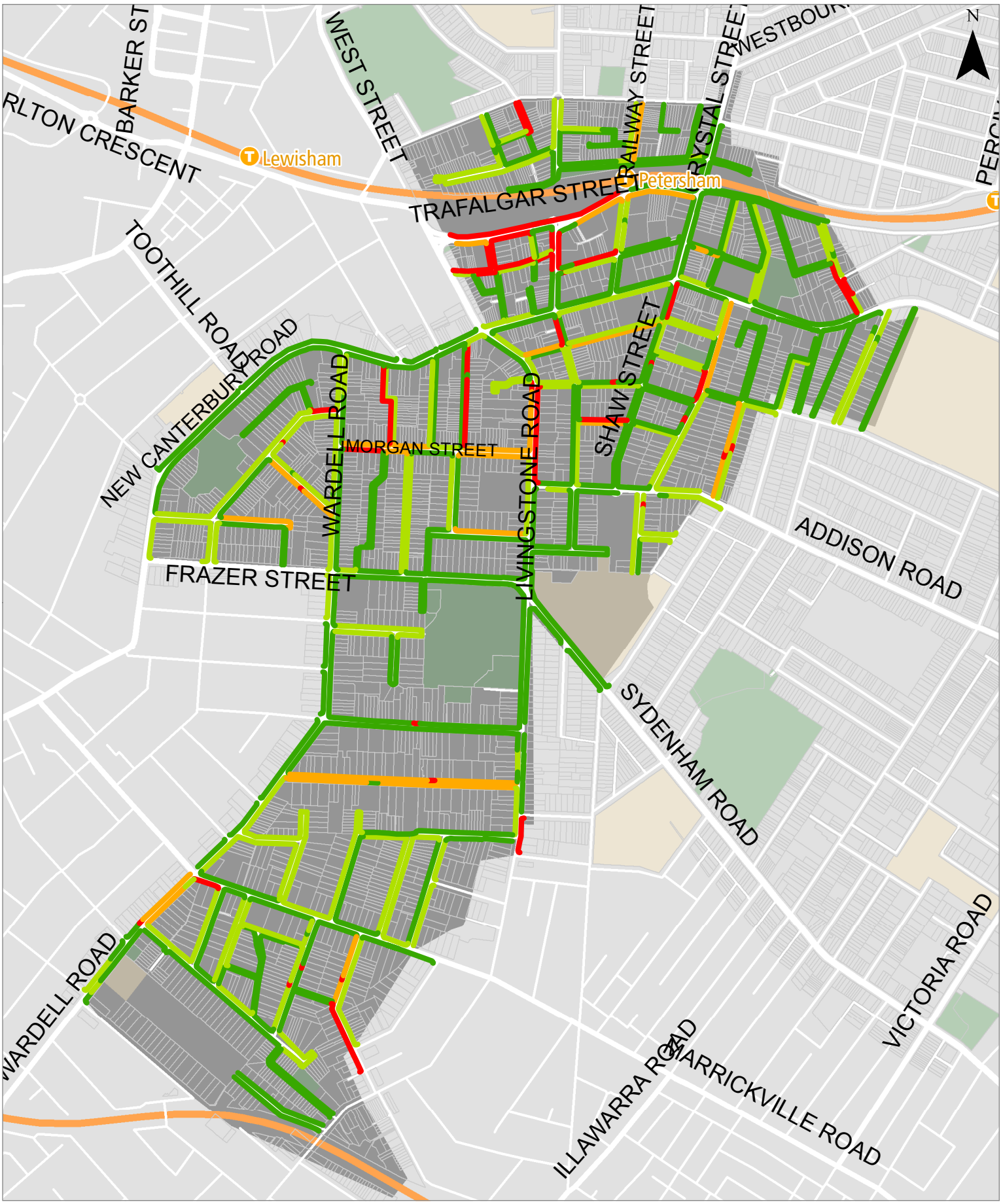
Petersham Parking Study



0 250 500 Meters

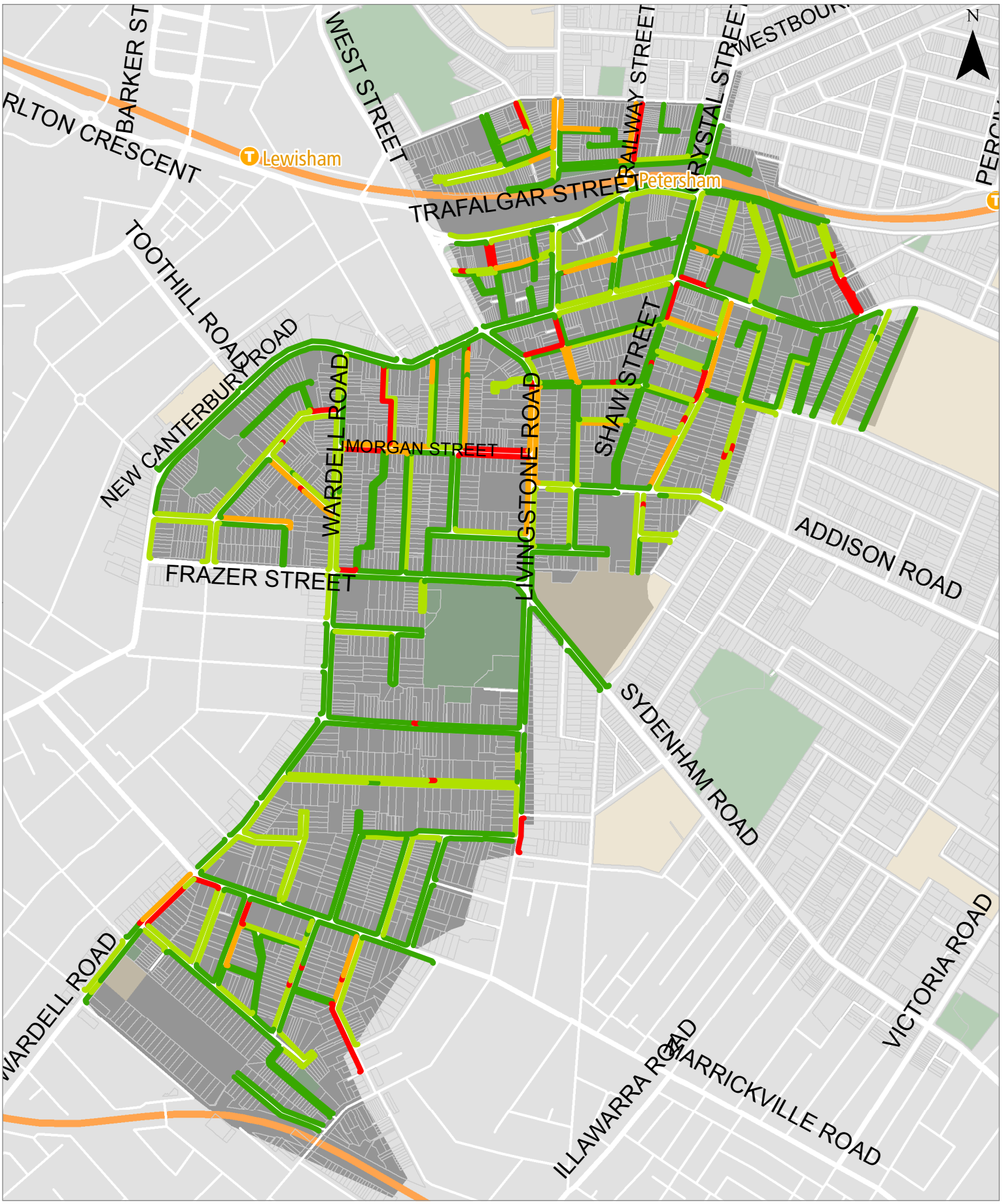
Sunday 11am

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

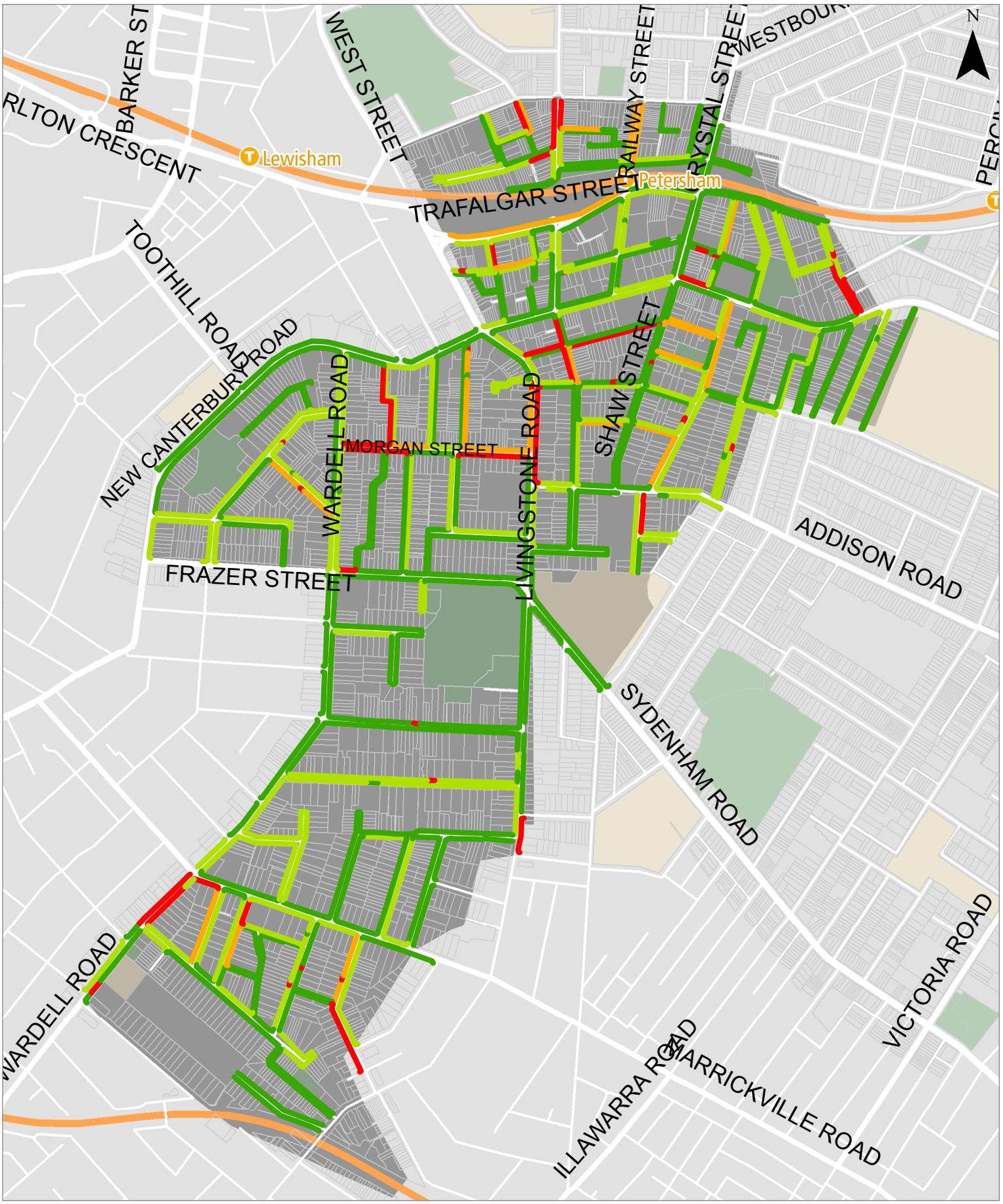
Sunday 12pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

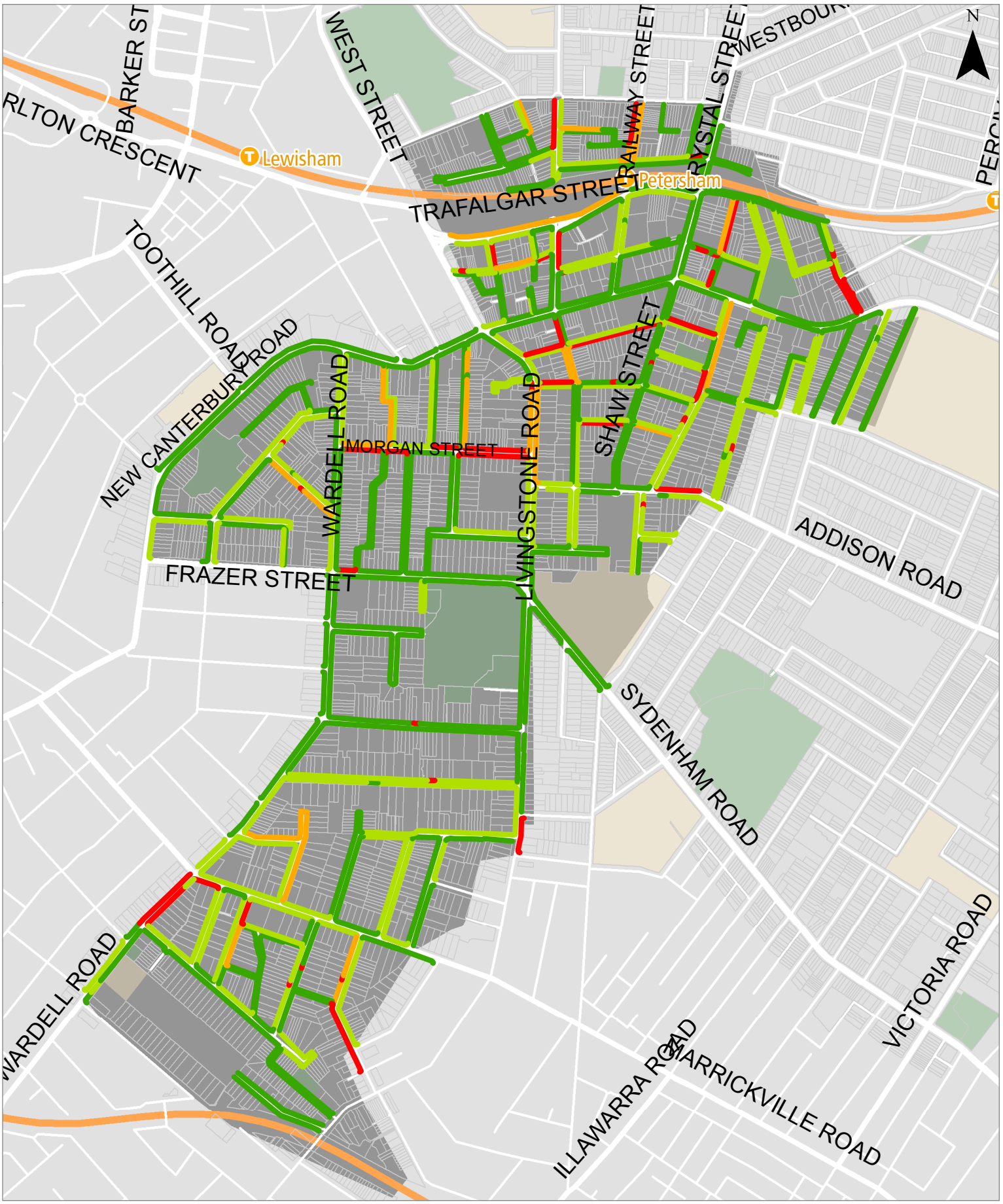
Sunday 1pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

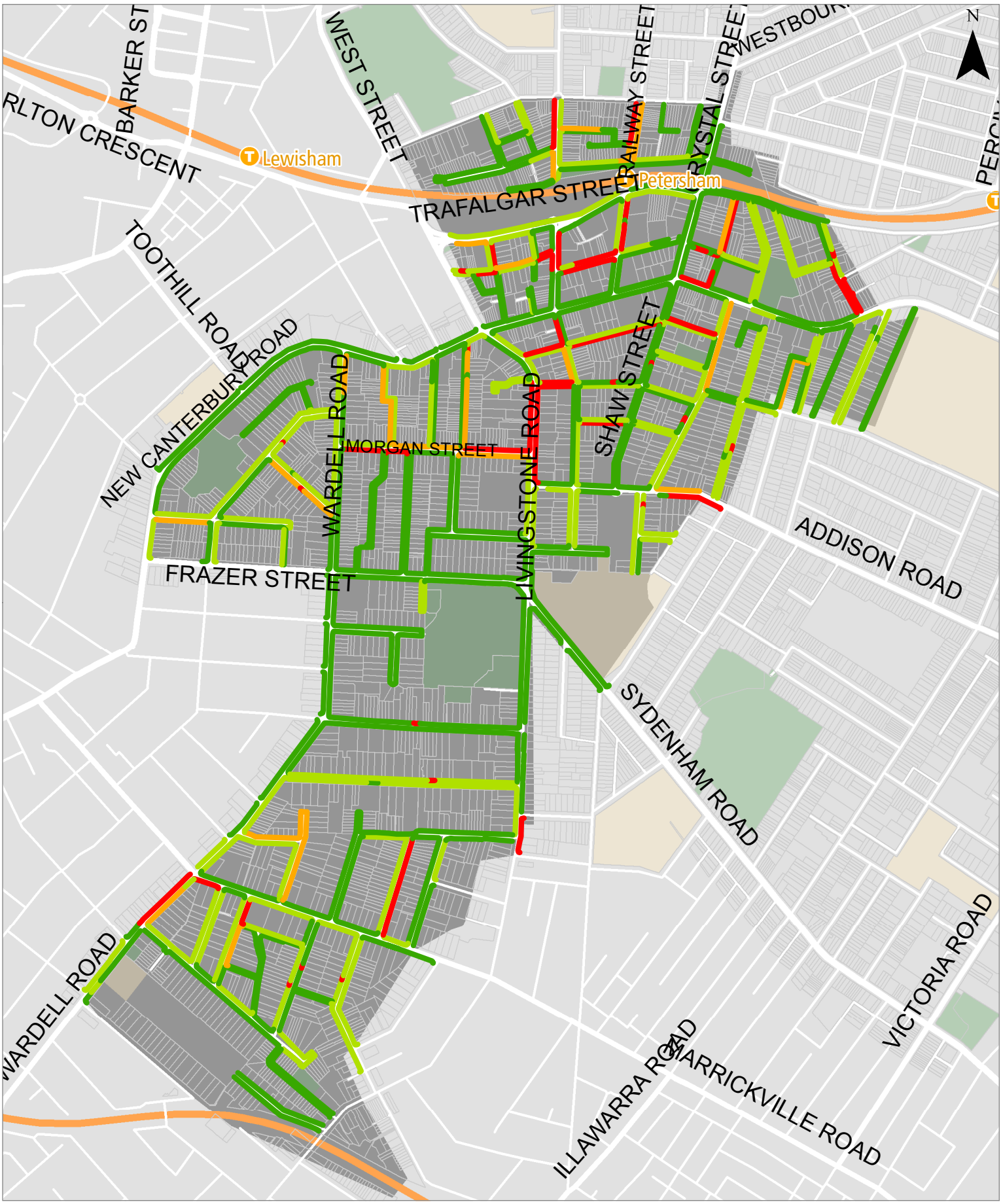
Sunday 2pm

Occupancy

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

ARUP

Petersham Parking Study



0 250 500 Meters

Sunday 3pm

Occupancy

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

ARUP

Petersham Parking Study

Appendix B

Draft Recommendations

90 degree parking

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

Standardisation of existing RPS
2P 8am-10pm Mon-Fri
(M5 permit holders excepted)

0 100 200 Meters

ARUP


Lewisham
Petersham
TERMINUS ST
SEARL ST
TRAFALGAR ST
TRAFALGAR ST
GORDON ST
SADLIER CR
NELSON PL
ABELS LA
FISHER ST
SHAW ST
FREDERICK ST
HOPETOUN ST
BENT ST
REGENT ST
AUDLEY ST
BALANAMING LA
CHESTER ST
STANMORE RD
MARSHALL ST
MARSHALL LA
MIDDLETON ST
COLLEGE LA
JAMES ST
JOHN ST
ALBERT ST
NEW CANTERBURY RD
UNNAMED
ALLANS AV
DUCROS ST
OXFORD ST
MARIA ST
MORGAN ST
SHAW ST
AUDLEY ST
LIVINGSTONE RD
NAPIER ST
GOULD AV
Monitor
2P 8am-10pm Mon-Fri
(M11 permit holders excepted)
2P 8am-10pm (Mon-Fri)
8:30am-12:30pm (Sat)
No Parking
0 100 200 Meters
ARUP