

8.6. Draft DCP Amendment - Car Parking Rates

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ATTACHMENTS:

1. SCT Consulting - North Sydney Parking and Traffic - Parking Rates [8.6.1 - 63 pages]
2. Draft DCP amendment - Section 10 - Car Parking and Transport [8.6.2 - 19 pages]

PURPOSE:

To seek endorsement of a draft amendment to North Sydney Development Control Plan 2013 as it relates to off street parking requirements for new development within areas of high public transport accessibility, especially Metro stations at Crows Nest and North Sydney and place that draft amendment on public exhibition.

EXECUTIVE SUMMARY:

Transport throughout Sydney and indeed in North Sydney, is in a period of immense change, with population growth, new transport infrastructure and emerging trends and technologies fundamentally disrupting traditional travel behaviour and patterns.

Parking planning and management, provides an opportunity to both support positive emerging trends and manage the negative impacts of traffic on the North Sydney community. Because every parking space generates a proportionate number of vehicle trips per day, policies that increase parking supply will lock in car dependency and stimulate traffic growth, thereby increasing the impact and cost of increasing traffic and congestion on the North Sydney community as more development occurs and the population grows. The parking policy direction included in this report is designed to address emerging development density increases and capitalise on new transport infrastructure to minimise traffic growth and the minimise impacts on amenity and place-making.

This report outlines amended off street parking requirements for private development for those areas that will be served by excellent levels of public transport represented by the operation of Crows Nest and North Sydney Metro stations. The fundamental direction adopted by this report, consistent with Council's *Ecologically Sustainable Development Best Practice Project* (2014) and the *North Sydney Transport Strategy* (2017), is that in areas of high public transport accessibility, as represented by walking catchments of the future metro stations and existing railway stations located within existing commercial centres, off street parking rates should be managed accordingly.

More specifically, this report recommends that all types of high density residential development within areas that have been identified as having high levels of public transport accessibility, should have a reduced rate of off-street parking provision. Similarly, the lower rate of parking that is currently applied in the North Sydney CBD, St Leonards and Milsons Point for commercial type development, should also be applied in these areas of high public transport accessibility.

This approach supports the principle of more sustainable transport options like walking, cycling and public transport as well as managing traffic growth and cumulatively assisting in creating and or preserving, safer environments of higher amenity for people.

The surge of development that has been and continues to occur in these areas, requires an immediate policy response to capture the benefits of the higher levels of accessibility represented by the commencement and operation of Metro.

FINANCIAL IMPLICATIONS:

The costs associated with the exhibition of the draft Development Control Plan amendments will borne out of existing budget lines.

RECOMMENDATION:

- 1. THAT** the draft amendments to North Sydney Development Control Plan 2013 as shown in Attachment 2, be adopted for the purposes of public exhibition.
- 2. THAT** the draft amendment to North Sydney Development Control Plan 2013 be exhibited for 28 days and a report be prepared for Council following this process, outlining submissions received.

LINK TO COMMUNITY STRATEGIC PLAN

The relationship with the Community Strategic Plan is as follows:

1. Our Living Environment
 - 1.2 Environmentally sustainable community
 - 1.3 Clean and green places
2. Our Built Infrastructure
 - 2.2 Vibrant public domains and villages
 - 2.3 Prioritise sustainable and active transport
 - 2.4 Efficient traffic mobility and parking
3. Our Innovative City
 - 3.1 Our commercial centres are prosperous and vibrant
4. Our Social Vitality
 - 4.1 North Sydney is connected, inclusive, healthy and safe

BACKGROUND

1. Policy Context

1.1. North Sydney Transport Strategy

In 2017, Council adopted the *North Sydney Transport Strategy* (NSTS) following comprehensive community consultation. This consultation was used as the basis for the development of a vision for transport in North Sydney as well as to identify and prioritise the community's transport issues and concerns.

The NSTS states that "there is a clear link between parking supply and traffic generation..." and that, in order to holistically address all NSTS 2017 priorities, Council will "...identify where the targeted application of parking policy and demand management initiatives may support reduced car ownership and use, provide more equitable access to parking and reduce traffic volumes in North Sydney."

The NSTS also identified overarching principles and key outputs for a suite of mode specific transport action plans, including the preparation of a *North Sydney Parking and Traffic Action Plan*.

1.2. North District Plan

In March 2018, the Greater Sydney Commission released its *North District Plan* as a planning framework to implementing the Greater Sydney Region Plan, *A Metropolis of Three Cities*. Action 20 of the *North District Plan* identifies an integrated approach to land use and transport planning based on place and accessibility with consideration of the potential opportunities afforded by unbundling, car sharing and adaptive re-use of parking

infrastructure in response to emerging trends and technologies. This Action provides the regional policy context for the parking planning and management methodology recommended in this report.

20. In Collaboration Areas, Planned Precincts, Growth Areas and planning for centres:
- a. investigate opportunities for precinct based provision of adaptable car parking and infrastructure in lieu of private provision of car parking
 - b. ensure parking availability takes into account the level of access by public transport
 - c. consider the capacity for places to change and evolve, and accommodate diverse activities over time
 - d. incorporate facilities to encourage the use of car sharing, electric and hybrid vehicles including changing stations.

Source: North District Plan 2018

1.3. St Leonards and Crows Nest 2036 Plan

The *St Leonards Crows Nest 2036 Plan* foreshadows very significant increases in residential density and is in large part predicated on increased accessibility provided by the operation of the Crows Nest Metro station in 2024. It includes the following action:

Limit the amount of car parking provided for new developments (p.56)

This strategic framework builds on Council's existing approach within the *North Sydney Development Control Plan (DCP)* which limits carparking by expressing these requirements as maximum rates.

1.4. Ward Street Precinct Masterplan (2019)

During the preparation of the Ward Street Precinct Masterplan (WSPMP) one of the key principles was to:

Ensure that total parking provision, including public and private parking assets, delivers no net increase in traffic generated with the Ward Street Precinct and responds to the Victoria Cross Metro Station

ARUP was engaged to undertake detailed transport and traffic analyses during the preparation of the WSPMP and noted that the increased development potential under the various WSPMP options considered would generally result in marginal increases in traffic generation from the Precinct if Council's current parking rates are adopted. It further suggested that adopting parking rates similar to that in Barangaroo (1/600sqm of commercial floorspace) would result in the proposed traffic generation rates falling below the current traffic generation rates, meeting the overall aim of the WSPMP.

1.5. North Sydney Local Planning Panel

At its meeting on 8 June 2022 when considering the Planning Proposal for the "Fiveways" site in Crows Nest, the North Sydney Local Planning Panel made the following observations:

As anticipated in the 2036 Strategy, the site can accommodate increased densities for both commercial and residential purposes given the investment in public infrastructure that has occurred in this area. It follows that the Panel considers that it is imperative, and in line with best practice, that the car parking be reduced and indeed this is a prerequisite of the 2036 Strategy that has identified this site for substantial uplift in densities.

The Panel encourages Council to review its DCP for parking rates, as a matter of priority, to exclude the area covered by the 2036 Strategy in the DCP, to ensure reduced maximum parking rates apply, in line with the principles contained in the 2036 Strategy.

2. Car Ownership

As noted in TfNSW’s *Guide to Traffic Generating Development*, increasing on-site parking supply results in commensurate increases in local traffic generation. The extent of these increases is dependent on local place-characteristics (i.e. parking in areas with good access to local shops, services and public transport generate less traffic than parking spaces in less well serviced areas) but this does not change the underlying causal link between parking supply and traffic generation.

Increasing car ownership and use (traffic) then becomes a self-fulfilling cycle as cities define an approach to land-use and transport planning that prioritises traffic over the provision of great local centres, walking, cycling and public transport infrastructure.

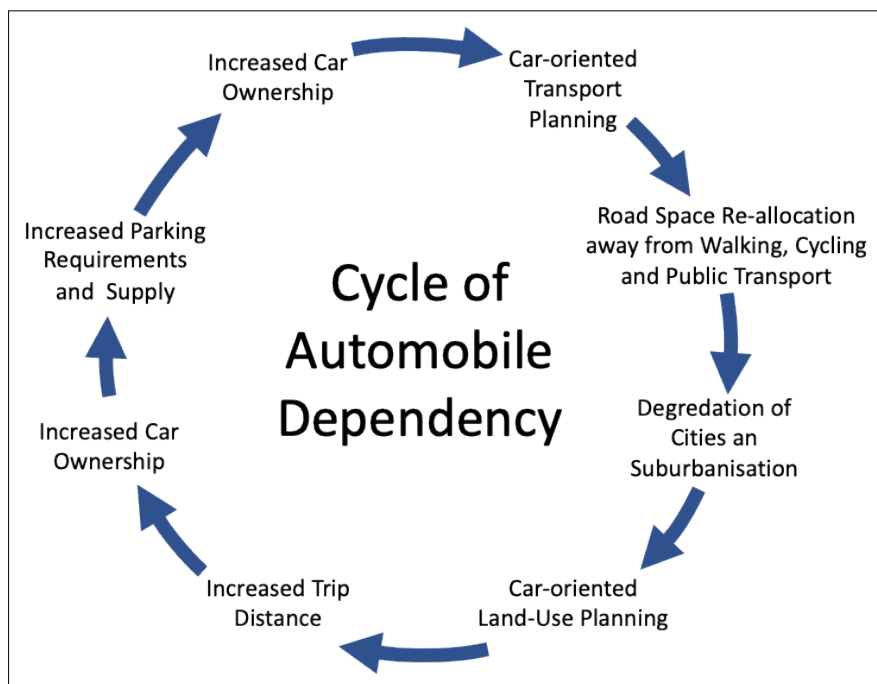


Figure 1: Cycle of Automobile Dependency

Understanding the interaction of these “problems” is essential to defining a more holistic approach to parking and traffic planning and management for North Sydney.

3. Traffic

The 2013 update of the *Guide to Traffic Generating Development* involved empirical analysis that demonstrates a direct correlation between parking provision and traffic generation. While the rate at which traffic is generated in St Leonards is lower than traffic generation rate in a rural location, the fact remains that for every additional parking space introduced in North Sydney, there will be a corresponding increase in traffic on North Sydney's local streets.

During development of the NSTS, the North Sydney community identified travel safety, transport security, social well-being and health as higher community priorities than fair access to parking. The NSTS demonstrated how increased traffic negatively impacts all of the community priorities identified above as well as environmental sustainability, local environments, transport affordability, congestion and business activity.

CONSULTATION REQUIREMENTS

Community engagement will be undertaken in accordance with Council's Community Engagement Protocol.

DETAIL

4. A Parking Strategy for North Sydney

As discussed, the NSTS identified the need to prepare a *Parking and Traffic Action Plan* as one of a suite of transport related action plans. The need to consider a holistic policy review of off-street carparking, both private and public, including timing restrictions and how they impact travel and business activity, levels of pricing as well as Council's resident parking scheme, are all important and inter-related factors given the relationship between these types of car parking, their characteristics and their function. There is also an element of place-based considerations that this work will need to include given the different access, land use and spatial elements that characterise North Sydney.

Council has been in the process of preparing various implementation options on these aspects of parking policy. This policy work is complex and there are a variety of approaches that require discussion and extensive consultation. This work remains ongoing.

For example, the fixed on street capacity to accommodate parking, is an important parallel issue to which there are various policy responses to ensure that there is turnover, availability and access to alternative transport options such as:

- Expansion of the existing parking meter network around these increased density areas to encourage turnover and on street parking availability
- Changes to existing on-street parking restrictions in the increased density areas to encourage turnover and on-street parking availability

- Increased access to car share schemes in the increased density areas to encourage less reliance on private vehicle ownership
- Construction of infrastructure for alternative modes of transport such as cycleways to encourage less reliance on private vehicle ownership.

Whilst this policy work remains to be fully resolved, there is an imminent need to provide more contemporary guidance on private parking provision within Council's Development Control Plan (DCP).

The North Sydney DCP contains a series of land use related requirements for off-street parking associated with different types of development. The opening of Metro in 2024, dramatically changes the accessibility characteristics of those precincts. Development that provides for a significant quantum of parking within these precincts, undermines the locational advantages associated with Metro and the opportunities to influence less private-car dependent lifestyles. In turn, this positively impacts on walking cycling, and public transport as well as amenity of our neighbourhoods. This is particularly salient given that the additional density is largely predicated on the increased access represented by rapid transit.

SCT Consulting have assisted Council to prepare an interim response to the significant growth in residential development and in particular, to consider policy responses to private carparking requirements for new development, as Metro is delivered.

Significantly, it is noted that under Council's current Residential Parking Scheme entitlements, future residents of new development would not be eligible for resident on-street parking permits. In other words, introducing lower parking rates in high accessibility areas of North Sydney, will encourage buyers into new developments, to consider private car free lifestyles, acknowledging that they will have greater access to public transport and that they will not be eligible for a resident parking permit. The advent of car sharing, ride sharing and other initiatives that assist people that have the occasional need for a car, support this policy direction.

4.1. The Transport Strategy Modal Hierarchy

The NSTS describes the transport modal hierarchy for North Sydney as walking, cycling, public transport, local deliveries and private vehicles in that order of policy priority.

In consideration of this, North Sydney Council will take a balanced approach to infrastructure planning and management that will prioritise the efficient movement of people and goods by walking, cycling and public transport with lower levels of priority given to private vehicle transport. In some cases, this will result in the re-allocation of road space away from parking and traffic functions.

While private motor vehicle use will continue to be an important part of multi-modal transport networks in the future, parking supply and associated traffic generation must be carefully managed if the aspirations of the community's transport vision are to be realised.

The residential growth discussed in section 7 below, will deliver increased levels and demands upon pedestrian infrastructure and space on our streets and beyond. For example, Council has completed High Pedestrian Activity Area (HPAA) and the 10Km and 40Km shared zone Master Plans with a focus on the Village Centres – North Sydney Centre and the High-Density development areas. These Master Plans are designed to address pedestrian safety and amenity further enhancing the increased focus on pedestrian safety and comfort and a reduced focus on private vehicle priority.

5. Metro

The City and Southwest Metro project will deliver new Metro stations at Crows Nest and North Sydney (Victoria Cross) by 2024. This will link these areas to the north west sector, the Sydney CBD and surrounds as well as the south west of Sydney. With the Western Metro project also in the planning stages, destinations associated with that project will be more accessible post 2024 for the Crows Nest and North Sydney Metro catchments.

An efficient transport system is fundamental to the city’s livability, economic well-being, and environmental sustainability. Metro will provide fast, reliable turn-up-and-go train service with fully accessible stations. The delivery of these stations will be transformational in terms of accessibility and capacity to move around different parts of Sydney on the public transport system. Of course, these new metro stations will be supplemented by the existing heavy rail in close proximity at St Leonards, North Sydney, Waverton, Wollstoncraft and Milsons Point, as well as existing bus services.

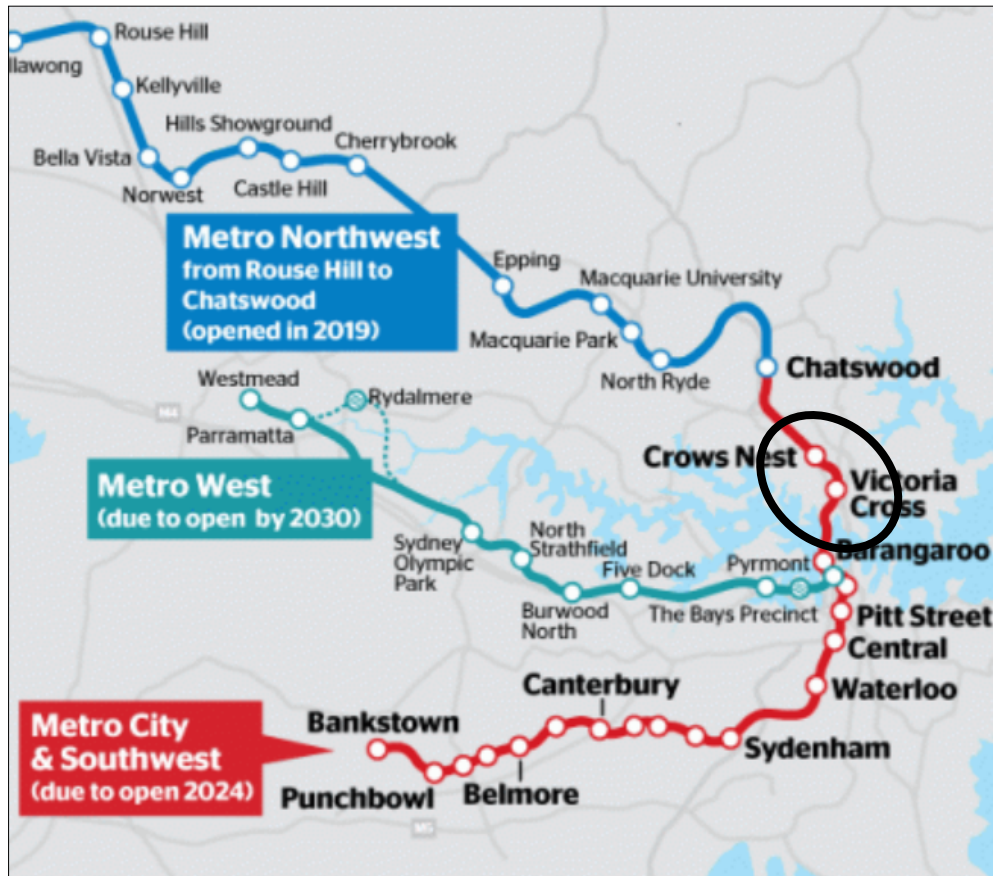


Figure 2 – Crows Nest and Victoria Cross Metro in the wider Metro network context

6. Reinforcing Car Dependency and its Impacts

The “predict and provide” model of transport planning in Sydney has traditionally led to a focus on increasing capacity of moving and accommodating private vehicles in complex city structures. This approach demands significant investment in space and public funds to achieve interventions such as road widening, signalling of intersections, new motorway projects, more parking structures, pedestrian safety barriers, disruption to pedestrian and cycling corridors and similar interventions.

As importantly, the policy and financial investment in private car travel has increasingly come at the expense of local amenity and safety. The widening of roads, dominance of carparking structures and increased traffic volumes in local streets and centres, is often at odds with the creation of intimate local places, safe and interesting pedestrian environments, reinforcement of local communities and reprioritising private car travel away from sustainable transport options.

In new private development, additional onsite parking generally results in higher apartment prices and therefore is an incentive for proponents to maximise its provision. More parking, especially within basements, also contributes to higher construction costs, reduced building efficiencies (lighting, ventilation etc.) and erodes affordability. The report at attachment 1 identifies that the costs of providing on-site parking contribute in the order of \$15-45K per apartment construction costs, with up to \$300K having been recorded in Sydney (Attachment 1 p. 17) as an additional price component of an apartment.

Clearly, as the city continues to grow, the expectation that accommodating private car travel will continue unabated without significant impacts upon congestion, further public investment in major road projects and underlying impacts upon our built environment, safety and amenity, needs to be recalibrated.

The evolution of car share, ‘robo’ taxi ride sharing and other shared mobility trends, increased road charges and taxes, remote working and other macro trends, suggest that private car ownership will decline over time. Large and expensive parking basements, on the other hand, will continue to exist for many decades.

7. Housing Growth in North Sydney

Council’s *Local Housing Strategy* (2019) identifies areas of housing growth to 2036 and beyond.

A significant proportion of this growth will be accommodated within the St Leonards/Crows Nest precinct as identified in the NSW Government’s *2036 Plan*. The net growth associated with the *2036 Plan* and its concentration, is significant. Similarly, expected residential growth in and around the North Sydney CBD is substantial. Both these precincts will be provided with a significant level of additional public transport capacity with the investment and delivery of Metro. A third precinct that is experiencing some level of growth, but is served by the proximity of good levels of public transport, shops and services, is Milsons Point by virtue of “change of use” proposals from commercial to residential development.

Based on current trends (Household Travel Survey), an additional 3,500 dwellings in North Sydney, will represent an additional 91,000km of driving on the network on a typical weekday (Attachment 1, p. 27).

Table 4 in section 12.3 identifies tangible examples of development that is foreshadowed in these precincts including the likely maximum number of parking spaces available under the current North Sydney DCP. Clearly, more of this type of development will continue to be foreshadowed and proposed in the near future.

North Sydney’s growth precincts are expected to accommodate a large percentage of the population and jobs growth forecast to 2036 and beyond.

Traffic growth in these precincts has the potential to negatively impact the safety and amenity of a much higher number of residents, workers and visitors to North Sydney than in other areas of the LGA. As such, it is important that residential parking supply and the traffic growth associated with higher density development in these precincts is carefully controlled to limit the negative impacts of this traffic on the North Sydney community.

8. On-site Parking Demand

Across North Sydney, per capita car ownership peaked in 2011. Extrapolating 2001-2016 trends shows that per capita car ownership in North Sydney is likely to continue to decline over time. Under a scenario where emerging trends, public transport infrastructure and new technologies (e.g. remote working, Metro and autonomous vehicles) dramatically change the personal mobility requirements of North Sydney residents, personal car ownership may fall at much higher rates than under a “Business as Usual” scenario. Figures 3 and 4 below are estimates of future trends and are intended for illustrative purposes to highlight potential impacts of such trends.

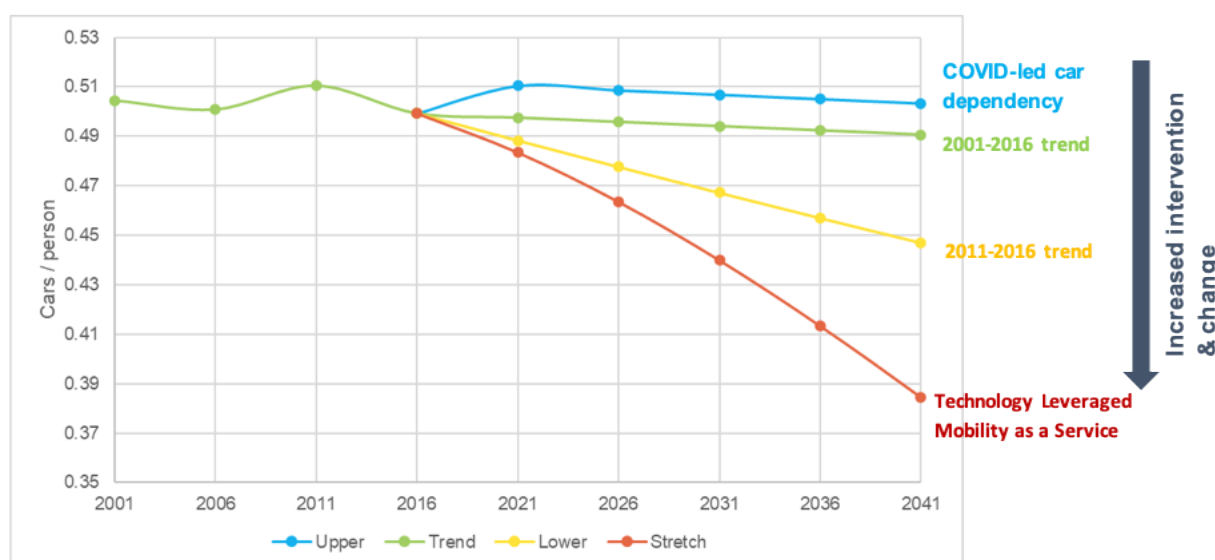


Figure 3: Per Capita Car Ownership Scenario Testing, North Sydney LGA (North Sydney Council)

While household car ownership marginally increased over the same period (+1% households that own at least 1 vehicle 2011-2016), this still constitutes a reduction in car ownership when considered against the +1.7% growth in household size (households with more than 3 persons) over the same period.

While there is no evidence to suggest that per capita car ownership in North Sydney has increased over the last 2 years (Greater Sydney has seen a 2% rise in per capita car ownership), even where a short-term Covid-related increase in car ownership is factored in, car ownership is still likely to stabilise and then decline over time. With good access to local jobs, shops and other facilities and increased opportunity to work from home for most of North Sydney’s knowledge-based workforces, North Sydney households may, in fact, dramatically reduce their car ownership/use as public transport (Metro), car share and ride-hailing reluctance declines post-Covid.

These car ownership rates and trends are not spread evenly across the LGA. Per capita car ownership rates in and around North Sydney’s more accessible precincts are even lower than those shown above. Current car ownership across mixed-use precincts is approximately 0.41 vehicle per person. Declining car ownership in these highly accessible precincts also started earlier and declined more steeply than the North Sydney average.

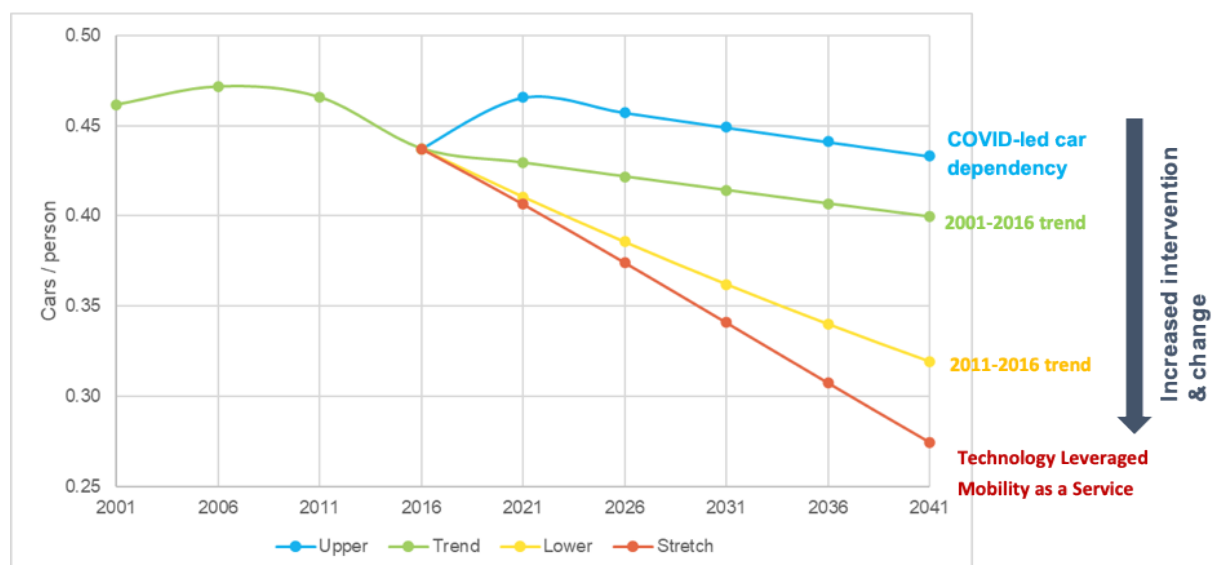


Figure 4: Per capita Car Ownership Scenario Testing, St Leonards/Crows Nest (North Sydney Council)

Given a current average occupancy of approximately 1.7 residents per household in North Sydney’s mixed-use precincts, current household car ownership is estimated to be approximately 0.7 vehicles per mixed-use property. Dependent on post-Covid household size and car ownership trends, more than half of all households in North Sydney’s mixed-use precincts could own no vehicles by 2036. Introducing policies that support low rates of car ownership in highly accessible areas is critical to managing traffic, congestion and associated impacts.

Council requiring developers to provide high rates of on-site parking, therefore, removes a major barrier to car ownership, increasing the likelihood that residents will either:

- a) purchase and maintain a car to capitalise on the initial parking space investment or
- b) sub-let parking spaces through on-line parking applications such as “Spacer” and “Parkhound”. It is noted that when visited in July 2022, there were 100 carparking spaces available for lease in North Sydney ranging from \$187-\$1,062 per month. These were generally located in areas of high public transport accessibility.

It is noted that on-site parking is highly valued by developers as it increases the marketability of their product. However, this reinforcement of car dependency comes at a significant cumulative cost to the wider community and denies potential purchasers the choice of a reduced apartment price in lieu of a parking space.

9. St Leonards Parking Rates

In May 2015, Council endorsed the review of DCP parking rates for the St Leonards/Crows Nest Precincts 2 and 3 study area. This resulted in a significant reduction in on site carparking on the basis of an expected influx of residential development within an area of high public transport accessibility and proximity to services and shops. The resulting amendments were endorsed by Council in October 2015 and have operated since that time to manage onsite parking provision of new high density residential and mixed-use development.

The intent of this amendment was to ensure that levels of local traffic and congestion, did not exceed general predevelopment levels thereby not saturating local streets with high traffic volumes and associated impacts.

10. Assessing Public Transport Accessibility Levels

Originally created by Transport for London, the Public Transport Accessibility Level (PTAL) is a measure of connectivity by public transport, which has been used in various planning processes and jurisdictions for many years. For any selected place, the PTAL score suggests how well a place is connected to public transport services. The score will be higher if the location:

- Is a short walking distance to transit stations or stops
- Has short waiting times at the nearest transit stations or stops
- Has more services pass at the nearest transit stations or stops
- Has major rail stations nearby.

The PTAL score falls for locations further away from these movement corridors as buses do not run as frequently, the street network is non-grid-like which increases walking distances, and the fall in elevation towards the shorelines makes walking difficult.

The AM peak PTAL score for North Sydney LGA is mapped in Figure 5 below. Accessibility is highest around the North Sydney CBD, Neutral Bay along Military Road, and St Leonards/Crows Nest along Pacific Highway. These accessibility measures will significantly increase with the commencement of the operation of Metro in 2024. Figure 6 below clearly captures this increase in accessibility with the arrival of Crows Nest and Victoria Cross Metro stations in 2024.

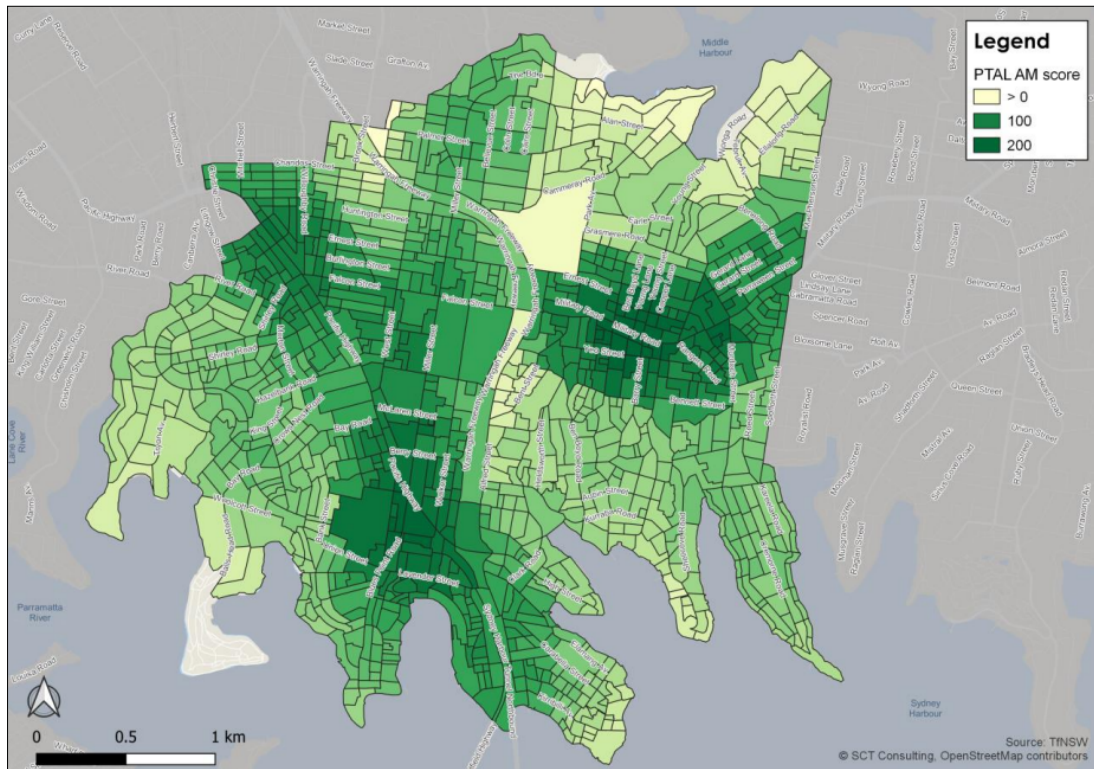


Figure 5 – AM PTAL

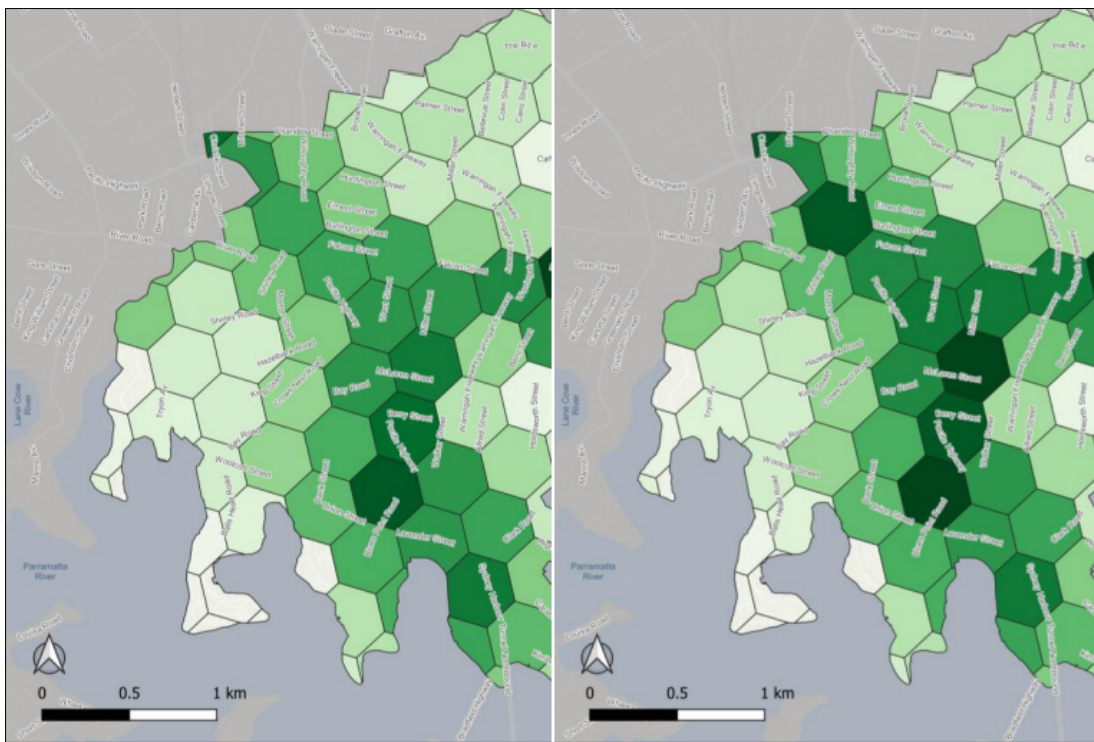


Figure 6 – increasing accessibility as a result of Metro

Based on this analysis, SCT Consulting have developed broad areas identifying precincts of highest accessibility (“category 3”) as identified in figure 5 below.

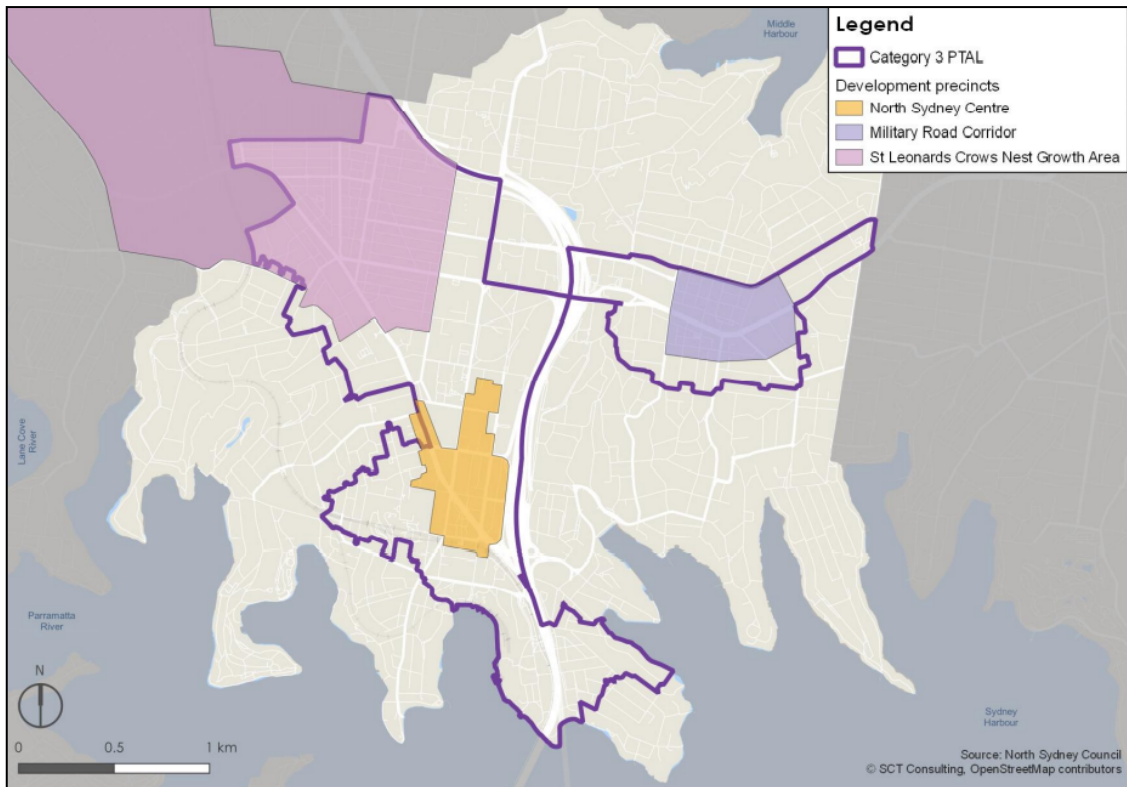


Figure 7 – SCT identified development precincts based on PTAL analysis

11. Planning Options

11.1. Option 1 – Business as Usual

The existing parking rates in the North Sydney DCP for certain development are generally calibrated to reflect high levels of accessibility. These include the commercial rates for development within the North Sydney CBD (1 space per 400 sqm of gross floor area). However, the approach to parking rates for high density residential development, whether *residential flat buildings* or *shop top housing*, are inconsistent especially within areas of high levels of public transport accessibility. A residential flat building within a high density residential R4 zone will result in a different onsite parking yield compared to a shop-top housing development that may enjoy a similar level of accessibility but be within the B4 zone. This is an anomaly that requires rectification to make more consistent.

The table below identifies the maximum carparking rates under the North Sydney DCP for residential flat building and shop top housing development.

TABLE 1 Current parking rates for residential flat buildings in the R4 and B4 zones			
Location	Zone	Maximum Requirement	
Within St Leonards/Crows Nest Precincts 2 and 3	B4 (Mixed Use)	Studio and 1 bed unit 2/3 bed unit No visitor parking	0.25 spaces/dwg 0.5 spaces/dwg
Everywhere else	B4 (Mixed Use)	Studio/1 bed unit 2 and more bed unit	0.5 spaces/dwg 1 space/dwg

TABLE 1 Current parking rates for residential flat buildings in the R4 and B4 zones			
Location	Zone	Maximum Requirement	
		No visitor parking	
North Sydney LGA	R4 (High Density Residential)	1-2 bed unit 3 or more bed unit Visitors	1 space/dwg 1.5 spaces/dwg 0.25 spaces/dwg

As table 1 demonstrates, the parking rates for high density residential development (whether within the R4 or B4 zone) represent about double the provision of parking established for St Leonards. With the arrival of Metro in 2024, the level of accessibility available in St Leonards, will be introduced to other precincts. This will not be reflected in the current DCP parking rates with the “business as usual” option.

It should be noted that for residential flat buildings, shop-top housing and attached dwellings, on-site car parking below maximum rates is encouraged in the DCP where the proposed development has good access to public transport. However, proponents generally maximise the extent of parking on site as a means to better market their residential units.

TABLE 2: Non-Residential Uses*			
Location	Zone	Maximum Requirement	
Within North Sydney Centre	B3 (Commercial Core)	1 space per 400sqm (gross floor area)	
Everywhere	B1 (Local Centre)	1 space / 100m2 non residential GFA	
North Sydney Centre, St Leonards, Milsons Point	B4 (Mixed Use)	1 space per 400sqm (gross floor area)	
Crows Nest, Neutral Bay, Cremorne	B4 (Mixed Use)	1 space / 60m2 non-residential GFA	

*excluding boat repair, child care centres, educational establishments, entertainment facilities, food and drink premises, funeral chapels and homes, hospitals, hotels and motels, registered clubs, light industries.

Table 2 also highlights the significant difference between parking requirements for non residential uses in areas of high accessibility as previously identified (1 space per 400smq of GFA) and other areas (1 space per 60 sqm).

11.2. Option 2 - Wait for Parking Strategy to be Completed

The preparation of a holistic parking strategy which, as discussed in section 4 above, is currently in the process of being prepared and will not be complete for some time. Once this strategy is in an endorsed draft state, it will be required to be the subject of community consultation, which, given the subject matter, will be a comprehensive and involved exercise. This entire process may take in excess of 18 months.

The advantage of waiting for the completion of this work, is that it will provide Council with a holistic approach to the wider spectrum of parking issues, ranging from private parking, public

parking, street parking, Council's resident parking scheme and will include discussion relating to pricing and timing restrictions.

The distinct disadvantage with this approach is that a significant component of this work, (private carparking) will remain unaddressed whilst substantial developments are presented to Council for determination. Once private parking spaces are approved and built, they will remain in place and contribute to the outcomes associated with excessive parking in highly accessible areas as discussed in this report.

11.3. Option 3 - Reduce Onsite Parking Requirements in high public transport accessibility areas (recommended option)

There is an opportunity of managing the extent of private parking that is proposed as part of new development in the context of significantly increased accessibility represented by the arrival of metro in 2024.

This can be considered as a sensible interim measure until the broader Parking Strategy is developed and adopted after consultation. There may need further refinement following this.

As stated throughout this report, there is ample evidence around the number of carparking spaces in private development contributing directly to additional trips in the network. In a large city like Sydney and in particular, a dense local government area like North Sydney, opportunities of managing and reducing this, in the context of the availability of excellent public transport supplemented by car/ride sharing services that have been available for some years, need to be considered to manage their ongoing and cumulative impact on our built environment and amenity of our neighbourhoods.

12. Proposed Amendments to the DCP Parking Rates

Based on the SCT analysis, Council staff have applied the areas of most immediate development pressure combined with reviewed on suite parking requirements to come up with the principles below.

12.1. Apply new parking rates consistently to all Residential development

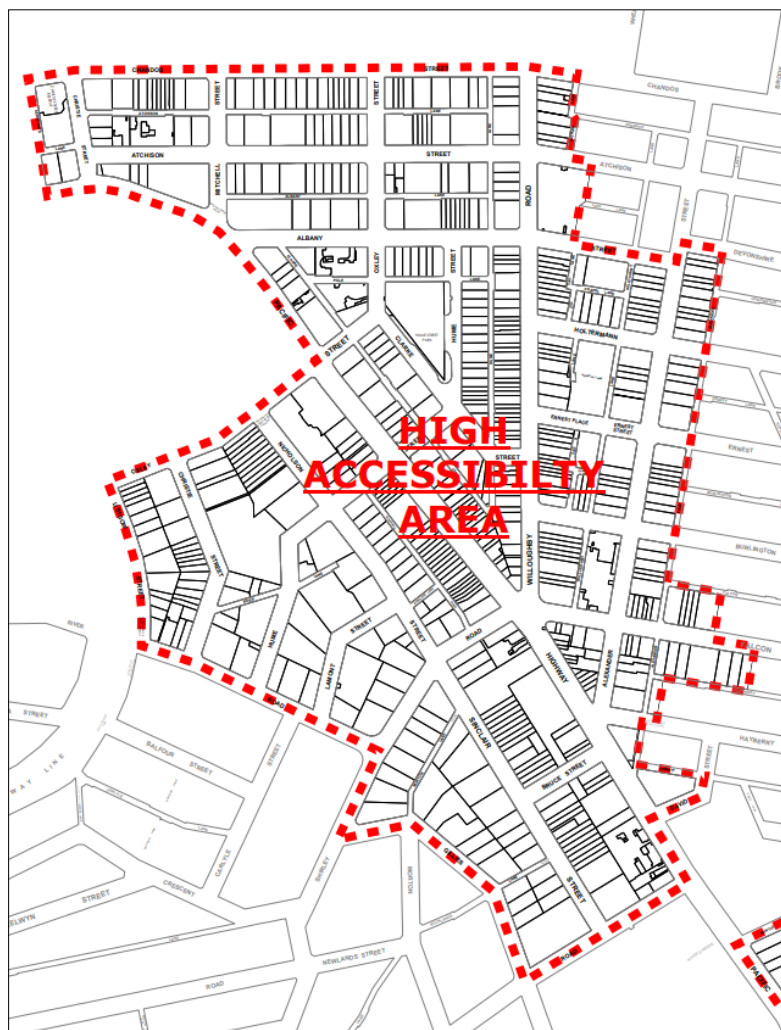
As discussed in section 11.1 above, Council's current parking requirements apply different rates depending on the zone and development type. Different rates and approaches to visitor parking are applied depending on whether the development is a *residential flat building* or a *shop top housing* development even though the characteristics of each is quite similar in a parking sense. The location should be the determinant of different approaches, rather than the definition of each type of housing.

12.2. Target high growth areas

Based on the SCT analysis and applying zoning controls and expected development pressure over the next few years, the maps below at Figure 8 have been generated to identify the areas that this report is recommending amendments to Council's DCP parking requirements. A major driver is the operation of Metro at Crows Nest and Victoria Cross which will

fundamentally change both the accessibility landscape, as well as corresponding development pressure and travel patterns.

The SCT Category 3 PTAL map (Figure 5) has been adapted and modelled to take into account the applicable zoning regime (B4 and R4 zones) to generally capture both PTAL Category 3 areas and expected higher density residential development pressures associated with the zoning and other planning controls of these areas. Milsons Point has also been included given its relatively high PTAL ranking combined with its B4 zoning and development pressure in that precinct. It should also be noted that the Military Road Corridor, whilst identified as a category 3 PTAL (figure 5), is proposed to remain as per the current DCP parking rates. Council is currently in the early stages of preparing a planning study which will assist in informing what change if any, should occur along this corridor in this regard.



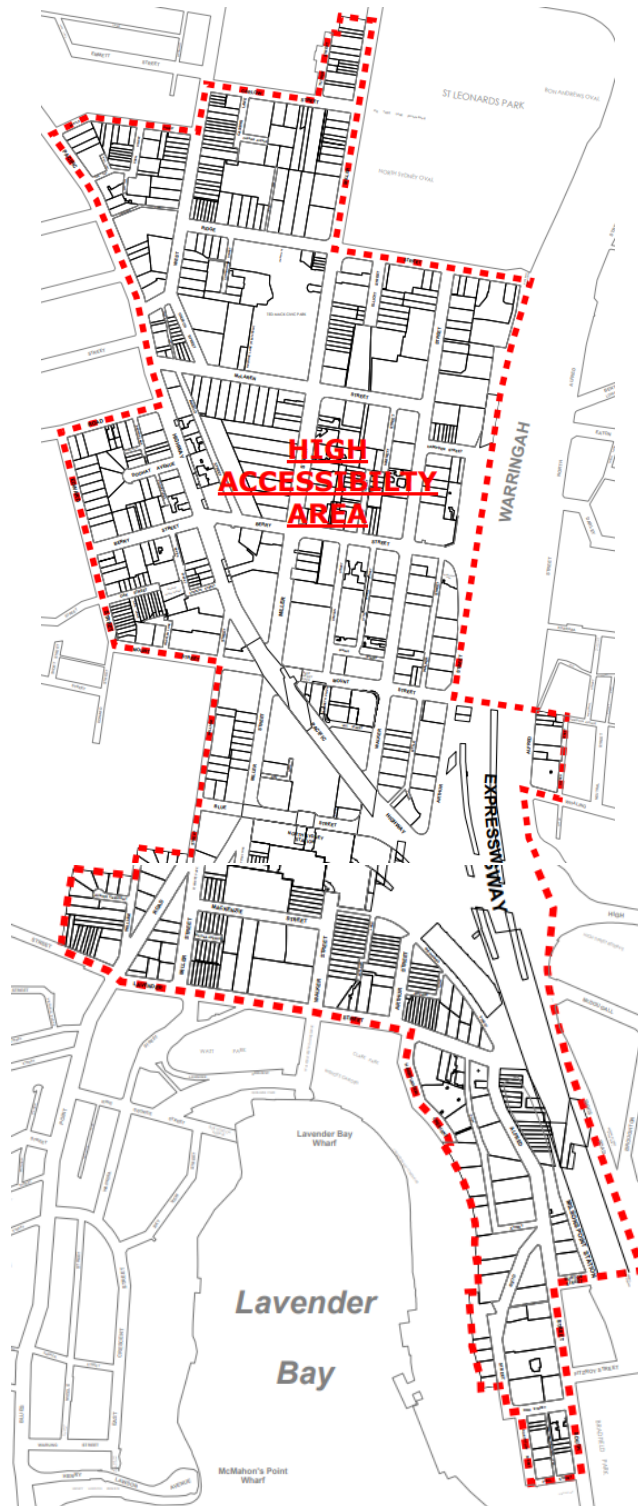


Figure 8 – DCP areas of amended parking rates

12.3. Proposed Parking Rates

As the SCT Consulting work at Attachment 1 demonstrates, there is a disconnect between PTAL and Council's off-street parking rates. This results in an oversupply of parking near public transport nodes and the market monetising these spaces.

Instead of deciding on parking rates by land zoning, parking rates can be determined by PTAL and expected car ownership, balanced by considering the number of households that will be affected by rate changes. Table 3 below identifies the proposed parking rates (in bold) for all residential development within the R4 and B4 zones within the areas identified in Figure 8 above.

TABLE 3: Recommended parking rates for residential development within the R4 and B4 zones		
Apartment Type	Proposed Parking rate	Average car ownership Range based on Kinesis* App
Studio	0.3	0.2-1.0
1 bed	0.4	0.3-1.1
2 beds	0.6	0.4-1.4
3 beds	0.7	0.6-1.7

*Kinesis developed an accessibility-based Residential Parking App to provide location-specific and up-to-date recommended residential parking rates for anywhere in Australia based on historical data. The app predicts car ownership and the associated demand for parking supply based on accessibility to public transport and historical car ownership.

It is noted that these rates are marginally higher than the current St Leonards rates which were introduced in 2015 (0.25 spaces per studio/1 bedroom dwelling and 0.5 spaces per 2+ bedroom dwelling).

Visitor Spaces

Like residents, visitors also have more alternatives to car driving in areas with good public transport. Following the same argument, visitor parking rates should reflect PTAL. Visitor parking rates in North Sydney are not based on proximity to public transport. They are currently provided at 0.25 per dwelling in the R4 *High Density Residential* zone, but no allowance for visitor spaces is currently provided for in the B4 *Mixed Use* zone.

This means that dwellings in the B4 zone, which are mostly located in high PTAL areas, already have zero provision for visitor parking. All high-density residential dwelling, regardless of the zone, are proposed to follow this precedent and reduce visitor parking provision in locations with high PTAL scores as identified in Area A. The reality is that this provision will have limited additional impact as it will only represent a change for those areas zoned R4 within this high accessibility area.

Table 4 below identifies those proposals that have either already been lodged as planning proposals or development applications and are therefore to varying degrees, imminent. It clearly shows the scale of difference between the “business as usual” scenario and the proposed amendments to DCP parking rates. The proposed amendment is likely to result in approximately half the level of traffic generation and all associated impacts related to this as discussed previously in this report. Clearly, more of these types of developments will continue to be foreshadowed and proposed in future. It is noted that both columns identifying parking numbers are to varying degrees, estimates.

TABLE 4: Current PPs and DAs and maximum allowable parking spaces under the North Sydney DCP			
Proposal Type	Address	# Parking Spaces	Draft Controls
PP	378-390 Pacific Highway, Crows Nest	132	63
PP	360 Pacific Highway, Crows Nest	89	32
PP	“Fiveways”, Crows Nest	247	94
PP	253-257 Pacific Hwy, North Sydney	39	27
PP	52 McLaren Street, North Sydney	165*	116
PP	Alfred St Precinct, North Sydney	Under review by DPE	**
DA	173-179 Walker/Hampden St, North Sydney	240	119
PP	45 McLaren Street, North Sydney	75	51
PP	52 Alfred Street, Milsons Point	173*	114
	TOTAL	1,160 spaces	626 spaces

*Estimates (which may change)

The proposed amendment to the North Sydney DCP is included at attachment 2 in “mark-up” format for clarity.

12.4. Non-Residential Uses

Because the parking rates in table 4 above are based solely on residential uses, it is also worthwhile applying the existing parking rates for commercial type uses that apply in the North Sydney CBD, to all areas identified on the map at Figure 8. This is currently 1 space per 400 sqm and has been successfully applied in the North Sydney CBD for many years. The high accessibility areas summarised in that map, are also proposed to be applied this rate of commercial carparking. In many ways, journeys to work and business are more easily influenced when in close proximity to excellent public transport than trips associated with residential development.

Conclusion

The bulk of future residential growth in North Sydney, fall within high PTAL areas. The St Leonards Crows Nest 2036 Precinct and in and around the North Sydney CBD are all very well served by public transport. Being the location of future development, the high PTAL areas are both most able to shift away from car dependency and the most impactful on car ownership and trip generation for North Sydney in the coming years.

The draft DCP amendment seeks to maximise the impact of the delivery of Metro in 2024 on the design of new development with particular emphasis on influencing car ownership rates and sustainable travel behaviour.



NORTH SYDNEY PARKING & TRAFFIC BACKGROUND REPORT

Parking rates and public transport accessibility

8 JULY 2022



Quality Assurance

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Executive summary

Need for a parking strategy

North Sydney Council is delivering its North Sydney Transport Strategy by reviewing off-street parking controls. The North Sydney Transport Strategy outlines private vehicles as the lowest priority in the Council's transport mode hierarchy below walking, cycling, public transport, local deliveries, and freight. While a low priority, driving is still an attractive mode for many journeys. It also can have important positives to the community, such as providing access for lower mobility customers and freight functions.

Parking policy is important to the community as driving provides an important and convenient mode of transport. This policy is also important to the Council as manager of the local road network, manager of the environment, in its role as consent authority for development and in delivering its strategic vision for North Sydney.

The academic evidence shows a strong and positive relationship between car ownership and driving – more cars mean more traffic.

North Sydney LGA has some key strengths in parking policy:

- Current levels of car ownership per person are low relative to Greater Sydney
- Car driving has declined in both the household travel survey and method of travel to work census data – despite a backdrop of increasing car ownership and driving in Greater Sydney.

However, there are also challenges that North Sydney is facing regarding parking and traffic:

- The **total number of cars in the LGA will continue to grow** as the population increases, with an expected population growth of 16% by 2036. Without intervention, congestion will continue to increase due to the increase in the total number of cars.
- Infrastructure projects such as the **Western Harbour Tunnel will increase the attractiveness of car** use to and from North Sydney LGA
- There is a **disconnect between the Development Control Plan and public transport accessibility** – particularly with Sydney Metro coming to the LGA.

Public transport access predicts car ownership

Public Transport Accessibility Level (PTAL) is a helpful tool to indicate demand for parking supply as it is a measure of the alternatives to driving. A critical factor in reducing the demand for driving is to increase the accessibility of public transport and active transport, while the flipside is also true, that parking supply can be reduced in areas where PTAL is high.

Kinesis developed an accessibility-based Residential Parking App to provide location-specific and up-to-date recommended residential parking rates for anywhere in Australia based on historical data. The app predicts car ownership and the associated demand for parking supply based on accessibility to public transport and historical car ownership.

The current North Sydney DCP does not account for Public Transport Accessibility Levels, linked only to dwelling type and land zoning. This means that a dwelling that is a 5-minute walk from a train station could be permitted to have as much parking as a dwelling with the same number of bedrooms that is a 20-minute walk.

Proposed Development Control Plan changes

Recommendation #1: set residential off-street parking rates for apartments using PTAL category.

By comparing expected car ownership with PTAL, it is possible to tailor the off-street parking rates to how accessible transport alternatives are in each area of the LGA.

Instead of deciding on parking rates by land zoning, parking rates can be determined by PTAL and expected car ownership, balanced by considering the number of households that will be affected by rate changes. A starting point for consideration and discussion could look like the rates presented below.

Property Description	Potential DCP (per dwelling)			
	Studio	1 bed	2 beds	3 beds+
Apartment Buildings in <u>category 3 areas</u>	0.3	0.4	0.6	0.7
Apartment Buildings in <u>category 2 areas</u>	0.6	0.7	0.9	1.2
Apartment Buildings in <u>category 1 areas</u>	0.6	0.7	1.0	1.2

These rates are linked to the relative level of public transport accessibility in the LGA, with parking category 3 being the highest PTAL scores, and parking category 1 being the lowest PTAL scores within North Sydney.

Note that council should consider expected future PTAL scores when drafting parking rates, and this is particularly the case for North Sydney where two new Metro stations will be delivered. These Metro stations will provide a significant increase in PTAL for the surrounding area and should be accounted for, even though they are not yet operational and not reflected in existing PTAL scores.

Recommendation #2: Reduce visitor parking

Visitor parking in North Sydney is currently provided at 0.25 per dwelling but only for a specific set of dwelling types: Attached dwellings/Multi-dwelling housing and residential flats that are not in Mixed Use Land Zoning.

This means that within the high PTAL areas, there's more visitor parking provision as low density residential (dual occupancies, dwelling houses, and semi-detached dwellings) don't have visitor provision either.

It is recommended that visitor parking rates be set similar to that of the City of Sydney Council for high density residential zones:

Property Description	Potential DCP (per dwelling)
	Visitor parking
Apartment Buildings in High Density Residential zoning in <u>category 3 areas</u>	Nil
Apartment Buildings in High Density Residential zoning in <u>category 2 areas</u>	0.167
Apartment Buildings in High Density Residential zoning in <u>category 1 areas</u>	0.2

Impacts of policy changes

These parking controls would result in the following impacts:

- Reduction in the traffic generation and impacts of precincts delivery in the LGA
- Reduction in car-driving at a whole of LGA level by about 49,000 km per year
- Reduction in carbon emissions by approximately 3,000 tons of CO₂ per year
- A \$94,000 per annum savings in the impacts of carbon pollution.

Conclusion

Parking policy is an important tool in achieving the North Sydney Transport Strategy and the environmental goals of the Council. The benefits of this policy change are an approximate halving of the impacts of cars on the environment and congestion.

1.0 Background

1.1 Need for a parking strategy

In 2017, North Sydney Council adopted the North Sydney Transport Strategy (NSTS). The NSTS is Council's guiding document for the delivery of its transport planning and management functions. The North Sydney Parking and Traffic Action Plan was identified as a key deliverable in NSTS, which also provides a clear methodology for developing this Action Plan.

NSTS and the embedded Action Plan methodology both highlight the "clear link between parking supply and traffic generation" and note that the following actions must be delivered holistically to minimise traffic generation, reduce the negative impacts of traffic on North Sydney communities and achieve the NSTS vision:

- Support increased density in areas of the LGA with good access to local shops, facilities, and public transport
- Encourage a diversity of uses in North Sydney centres
- Prioritise walking and cycling infrastructure improvements
- Reduce the average distance that residents have to travel to access public transport
- Improve the accessibility of regional destinations by public transport
- Carefully manage parking supply to support:
 - reduced car ownership and use
 - provide more equitable access to parking
 - reduce local traffic generation

This holistic approach to land use, transport, parking, and traffic planning will support more car-free lifestyles and maximise the percentage of trips that can be achieved by walking, cycling and public transport. Remnant demand for increased car-based mobility can then be more efficiently and cost-effectively provided by traditional car rental and taxi providers as well as car share and ride-hailing mobility services.

We're taking a "vision & validate" approach to transport planning, where community benefit is the key driver for transport policy. This approach is at odds with the more traffic-centric "predict & provide" approach to transport planning, where historic trends are extrapolated to forecast future demand and additional capacity is delivered to accommodate. This approach has been shown to reinforce established behaviours, boosting car dependency, supercharging traffic demand, and exacerbating the negative impacts of traffic on local communities.

This study focuses on the residential parking rates specified in North Sydney's Development Control Plan and considers how locations with high public transport accessibility could be better calibrated to achieve the community's vision for a "healthy, happy and prosperous North Sydney".

1.2 Report structure

This background report is divided into multiple parts, in which:

- **Section 2:** explores the current policy framework and the operational problems that the North Sydney Parking and Traffic Strategy seeks to solve
- **Section 3:** unpacks how current parking rates and controls compare to public transport levels
- **Section 4:** outlines how Council could change their Development Control Plan to respond to public transport access
- **Section 5:** summarises the conclusions of the study
- **Appendix A:** provides supplementary maps and overlays not possible to retain in the report body due to length.

2.0 Defining the problem

2.1 Strategic context

This section describes the strategic planning context in which parking for North Sydney sits.

2.1.1 North Sydney Transport Strategy (NSTS)

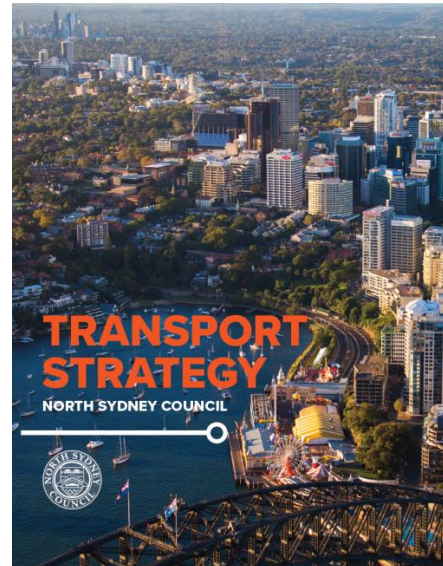
The *North Sydney Transport Strategy* (North Sydney Council, 2017) visioned that “In 2030, transport will play a positive role in supporting a happy, healthy and prosperous North Sydney community.” The policy established ten community priorities that led to the implementation of a modal hierarchy:

- Priority 1: Walking
- Priority 2: Cycling
- Priority 3: Public Transport
- Priority 4: Local Deliveries & Freight
- Priority 5: Private Vehicles.

Fair access to parking was one of ten community’s visions for transport in North Sydney, with the aim that parking policy will be set to encourage people to consider alternatives to driving, reducing parking demand and increasing the availability of the existing parking supply.

The increased uptake of walking, cycling and public transport will increase parking availability, while private motor vehicle use hinders the delivery of North Sydney’s transport vision and priorities. In consideration of this, North Sydney Council will take a balanced approach to infrastructure planning and management that will prioritise the efficient movement of people and goods by walking, cycling and public transport with lower levels of priority given to private vehicle transport (delivery vehicles, cars, motorcycles, etc.). In some cases, this will result in the re-allocation of road space away from parking and traffic functions.

While private motor vehicle use will continue to be an important part of multi-modal transport networks in the future, parking supply and associated traffic generation must be carefully managed if the aspirations of the community’s transport vision are to be realised. Thus, parking supply and traffic infrastructure capacity will be carefully managed to minimise traffic growth, encourage walking, cycling and public transport use and deliver the priorities identified in the community’s transport vision.



A broad analysis of the current parking situation against the NSTS priorities is provided in **Table 2-1**.

Table 2-1 NSTS priorities and the current parking situation in North Sydney

Community Priority	Implication for parking in North Sydney
Overall	Current parking policy supports low levels of parking growth and commensurate traffic growth as a result of new development. This parking/traffic growth particularly affects transport outcomes in North Sydney development precincts. Traffic growth, generally, exacerbates the costs associated with externalities detailed below.
Safe Travel	While some safety benefit is derived from increased traffic congestion causing slower traffic speeds, in general, road safety declines in proportion to traffic growth. ¹
Transport Security	Reduced crime is closely linked to surveillance, which is itself closely linked to street activity. ² Although traffic does contribute to street activity to some extent, because car-dominated streets discourage walking and walkers provide higher levels of local surveillance and intervention than traffic, traffic growth has been linked to net increases in local crime.
Social Wellbeing	Reduced social interaction linked to reduced walking and increased car use has resulted in more divided communities, reduced civic pride, increased anti-social behaviour, and increased policing requirements ³ .
Active Health	Increased car dependency both directly and indirectly results in fewer walking and cycling trips ⁴ . This impacts health outcomes at the community level.
Fair Access to Parking	Parking demand/supply imbalances, particularly in North Sydney's growth precincts, will continue to increase.
Environmental Sustainability	Transport is the second highest cause of greenhouse gas emissions in Australia after electricity production ⁵ . Supporting increased car ownership and use through the provision of high rates of parking in new development is contrary to the objectives detailed in Council's Sustainability Strategy and its call to action to address the "climate emergency".
Local Environments	Even if 100% of the Australian fleet goes electric, particulate pollution from tyre wear and grease will continue to contribute 75% of the current particulate pollution caused by traffic. Traffic-related noise will also continue to increase. ⁶
Transport Affordability	Locking in car dependency by increasing the supply of parking and, thereby, increasing vehicle ownership and use will ensure that the high cost of travel by private vehicle (including car ownership, insurance, and tax as well as fuel, tolls, and parking) continues to be an expensive necessity when living in North Sydney.
Congestion	Accommodating increased car ownership and use by providing more and more car parking will ensure that local congestion increases in line with new development and increasing populations (as required by state government housing targets).
Business Activity	Increasing parking supply in line with business development results in more visitors travelling to North Sydney's commercial and mixed-use centres by car. Declining safety and amenity outcomes associated with resulting increased traffic negatively impacts the appeal of these centres for workers and visitors ⁷ . This then affects the choice of businesses to locate in these centres. Knowledge economy businesses and workforces are particularly interested in better walking, cycling and public transport outcomes, even where this impacts the accessibility of a centre by car.

¹ Ivan, John N. "New approach for including traffic volumes in crash rate analysis and forecasting." Transportation Research Record 1897.1 (2004): 134-141.

² Gilderbloom et al., 2014, Does walkability matter? An examination of walkability's impact on housing values, foreclosures, and crime

³ Litman, 2014, Economic value of walkability

⁴ Litman, 2014, Economic value of walkability

⁵ <https://soe.environment.gov.au/theme/climate/topic/emission-sources>

⁶ David C.S. Beddows, Roy M. Harrison, PM10 and PM2.5 emission factors for non-exhaust particles from road vehicles: Dependence upon vehicle mass and implications for battery electric vehicles, Atmospheric Environment, Volume 244, 2021, 117886, ISSN 1352-2310.

⁷ NYC Department of Transportation, 2013, The Economic Benefits of Sustainable Streets

2.1.2 North Sydney CBD Transport Masterplan

The *North Sydney CBD Transport Masterplan* (North Sydney Council, 2018) explores the opportunities that the future Metro Victoria Cross Station will bring to North Sydney CBD. This report recommends the targeted application of parking policy and demand management initiatives to support reduced car ownership and use, provide more equitable access to parking and reduce traffic volumes in the North Sydney CBD.



The Masterplan proposes to maintain current levels of local traffic within the North Sydney CBD, parking rates for new development, time and place restrictions for on-street parking and changes to the residential parking scheme.

Council will ensure that the difference between public transport fares and parking fees does not reduce. They note that it is essential that commuters see the cost of driving (vehicle maintenance, registration, petrol, tolls, and parking fees) as more expensive than a public transport fare as this cost difference is used to justify the inconvenience of using public transport. This is especially important as high-quality public transport access is readily available in a development precinct such as North Sydney CBD.

In managing parking provision and rates, North Sydney Council will also ensure that short-term on-street parking is maintained to encourage saturation at approximately 85% to allow a small portion of spaces are available for visitors to the CBD to limit increased vehicle circulation for those searching for a park or avoidance of the North Sydney CBD.

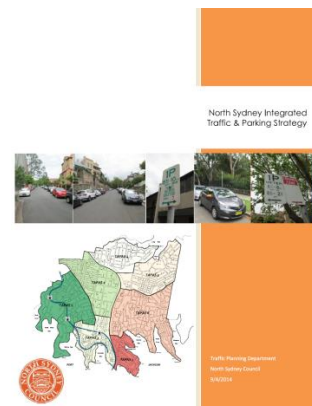
2.1.3 North Sydney Integrated Traffic and Parking Strategy (NSITPS)

The *North Sydney Integrated Traffic and Parking Strategy* (North Sydney Council, 2015) was developed to improve the traffic and parking situation across the North Sydney LGA. It has the vision to ensure that traffic and parking are managed proactively, sustainably, and holistically so that it meets the needs and expectations of residents, businesses, and other road users now and in the future.

The goals of the strategy are to:

- Improve traffic and parking management across the LGA
- Ensure that traffic and parking are balanced to meet the needs of road users, particularly residents and businesses both now and into the future
- Encourage sustainable transport modes as alternatives to private motor vehicle use.

The strategy proposed is to create seven Traffic and Parking Area Scheme (TAPAS) zones and consider all traffic and parking issues on a holistic area-wide TAPAS basis, considering local and metropolitan transport tissues and requirements. The strategy will provide an overarching framework for the formulation of TAPAS Action Plans for the seven TAPAS zones. The seven zones proposal was not adopted by Council based on community feedback.



2.1.4 Ecologically Sustainable Development (ESD) Best Practice Project – Transport

The *Ecologically Sustainable Development Best Practice Project* (North Sydney Council, 2014) was an endorsement of 5 Action Plans which identified or developed provisions that would improve the sustainability performance of new developments compared to the current practice of the time. One of the areas of focus was transport, in which the adopted action plan noted:

- Constraining parking supply and charging market rates for parking provision is an opportunity to influence travel mode choice
- An on-street parking occupancy target of 85% would prevent cruising, best achieved through charging market rates for all on-street parking
- It is important to ensure alternatives to driving are available and accessible to motivate mode shift
- Maximum off-street parking rates in new developments that are dependent on proximity to public transport and services should be considered.



NORTH SYDNEY COUNCIL
Ecologically Sustainable Development
Best Practice Project



2.2 Legislation and guidelines

The legislation impacts the authority by which North Sydney Council can enforce parking policies.

2.2.1 Environmental Planning & Assessment Act (EP&A)

The EP&A Act (1979) governs the making of Local Environmental Plans (LEP), planning proposals and Development Control Plans (DCPs).

The North Sydney LEP details the local environmental planning provisions for land in North Sydney, aiming to guide development in enhancing amenity, protecting environmental quality and ensuring a desirable neighbourhood character.

The North Sydney DCP supports this with the principal purpose of giving effect to the aims of environmental planning instruments, facilitating development, and achieving the objectives of land zones. This guideline also includes the rates set out for parking which applies to development occurring within the LGA.



2.3 North Sydney parking management processes

In addition to the legislation, North Sydney Council has a suite of policies and processes that shape parking in the LGA.

2.3.1 North Sydney Development Control Plan (DCP), 2013

The objectives of the North Sydney DCP are to facilitate an increase in the use of public and alternative transport modes and to minimise reliance on private car usage while allowing an appropriate level of on-site car parking. North Sydney currently applies maximum parking rates for all car parks, both residential and non-residential, detailed in section 10 of the North Sydney DCP.

The residential parking rate in North Sydney is generally based on dwelling types, with specific rates for apartments within Mixed Use land zoning (B4), and St Leonards Precincts 2 & 3, which have the most restrictive parking rates in the LGA. The DCP parking rates are listed in **Table 2-2**.

Table 2-2 North Sydney DCP parking maximums

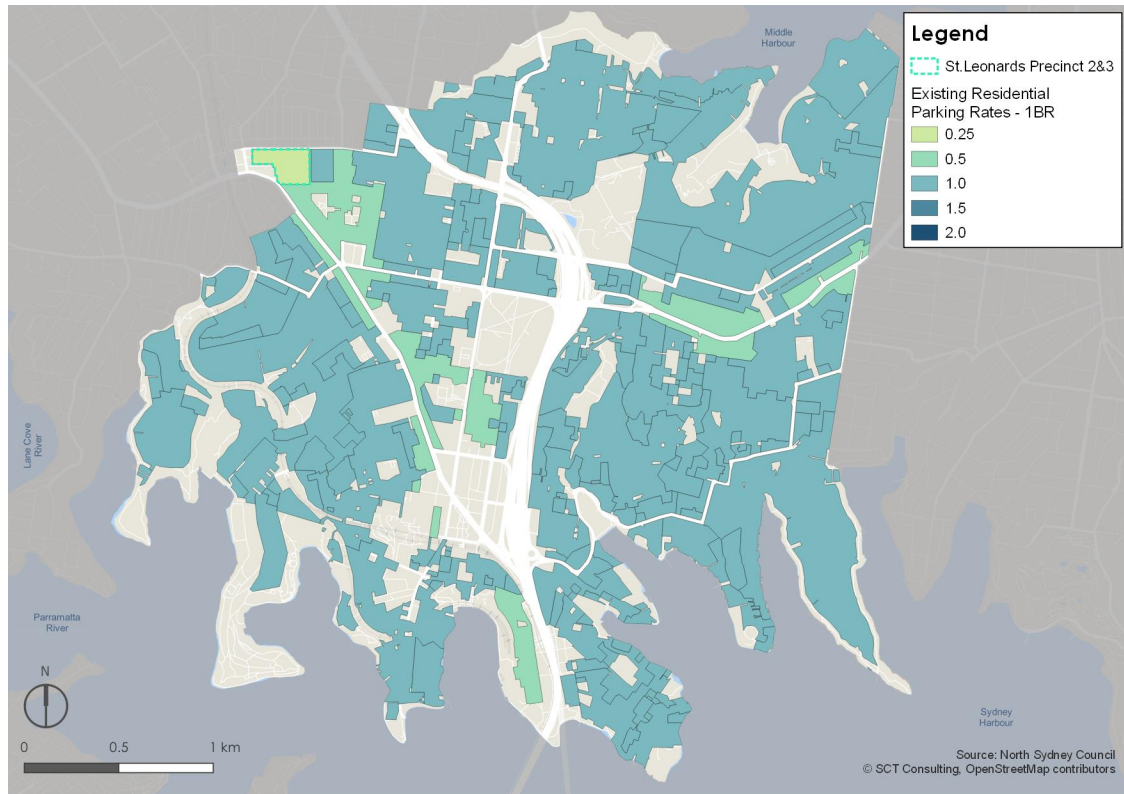
Property Description	Studio	1 bed	2 beds	3 beds+	Visitors
Dual occupancies, dwelling houses, semi-detached dwellings	1	1	1	2	-
Attached dwellings, townhouse	1	1	1	1.5	0.25
Apartment Buildings in Mixed Use Zones (B4) but not in St Leonards Precincts 2 & 3	0.5	0.5	1	1	-
Apartment Buildings in Mixed Use Zones (B4) and St Leonards Precincts 2 & 3	0.25	0.25	0.5	0.5	-
Apartment Buildings in all other zones	1	1	1	1.5	0.25

Source: North Sydney Council, 2013

These residential parking maximums are comparable to the City of Sydney DCP, which has similar maximums for detached/semi-detached dwellings and a lower range of maximums for residential flats. Unlike North Sydney Council, however, the City of Sydney reduces the maximum allowance based on land use and transport integration, decreasing the provision of parking spaces where public transport provision is high.

To aid with the visualisation of the North Sydney parking provisions, the parking rate maximums for 1-bedroom units have been colour coded into land use boundaries in **Figure 2-1** (though this is a generalisation as different dwelling types can still occur over the same land zoning). It shows how the special provision for parking rates in Mixed Use land zoning largely follows the two main arterial roads that serve North Sydney, the Pacific Highway and Military Road. More maps showing this colour coding for other bedroom numbers and visitors can be found in **Appendix A**.

Figure 2-1 Residential parking rates for 1-bedroom dwellings



In many locations, the maximum off-street residential parking spaces per dwelling in North Sydney is lower than the number of parking spaces that residents are entitled to under the resident parking permit scheme. This de-coupling of the DCP with the resident parking permit scheme allows for greater car ownership through on-street parking.

Maximum parking rates are also required for non-residential developments. The applicable rates are based on the land zoning of the development location or the specific use type (such as child care centres or hospitals). Rates are not linked to public transport access levels but the DCP encourages a reduction below the maximum rate where public transport access is good.

Parking rates for non-residential uses are outlined in **Table 2-3**.

Table 2-3 Maximum parking rates for non-residential land uses

Development type	Maximum parking rate	
	Context	Rate
Medical centres	North Sydney Centre Milsons Point St Leonards	1 space / 400m ²
	All other areas	4 spaces / 100m ²
Places of public worship	1 space / 100m ²	
Recreational facilities	1 space / 100m ²	
Restricted premises Sex service premises	1 space / 205m ²	
Serviced apartments	1 space / 5 apartments	
Service stations Vehicular repair stations	2 spaces / workshop bay	
Supermarkets	North Sydney Centre Milsons Point St Leonards	1 space / 400m ² of GFA
	All other areas	4 spaces / 100m ² of GFA
Vehicular sales or hire establishment	1 space / 100m ²	

2.3.2 North Sydney Council Parking Permit scheme

North Sydney Council has established a permit parking scheme under the permit parking regulation and guidelines. As part of managing the scheme, a total of 33 parking areas are in force. The parking scheme aims to provide equitable access to on-street parking in residential areas for residents who have limited or no off-street parking, entitling eligible residents to unrestricted on-street parking based on available kerb space, and parking spaces within each property and the number of vehicles registered to the property.

Permit entitlements were adopted in 2009. The maximum entitlement is for three vehicles, with residents of Zone C areas entitled to the most spaces and residents in Zone A areas the least. Eligible residents can pay an annual fee of \$70 for their first permit, and \$150 for the second permit. In addition to residential parking permits, day-long "Visitor parking" permits can be requested 30 times a year, per residential property, for a cost of \$2 a permit.

The 33 parking areas in the North Sydney LGA are illustrated in **Figure 2-2** with the maximum number of permits entitled listed by property type in **Table 2-4**. Parking areas in a permit system regulate the extent to which a permit holder is allowed to be exempt from on-street parking restrictions. The benefit of a large number of parking areas is that it allows for finer grain adjustment of parking entitlements. This ensures that parking permits are used to provide residential parking, limiting the ability of holders to use the permit for ulterior purposes such as shopping or commuting.

Figure 2-2 North Sydney parking areas by zones

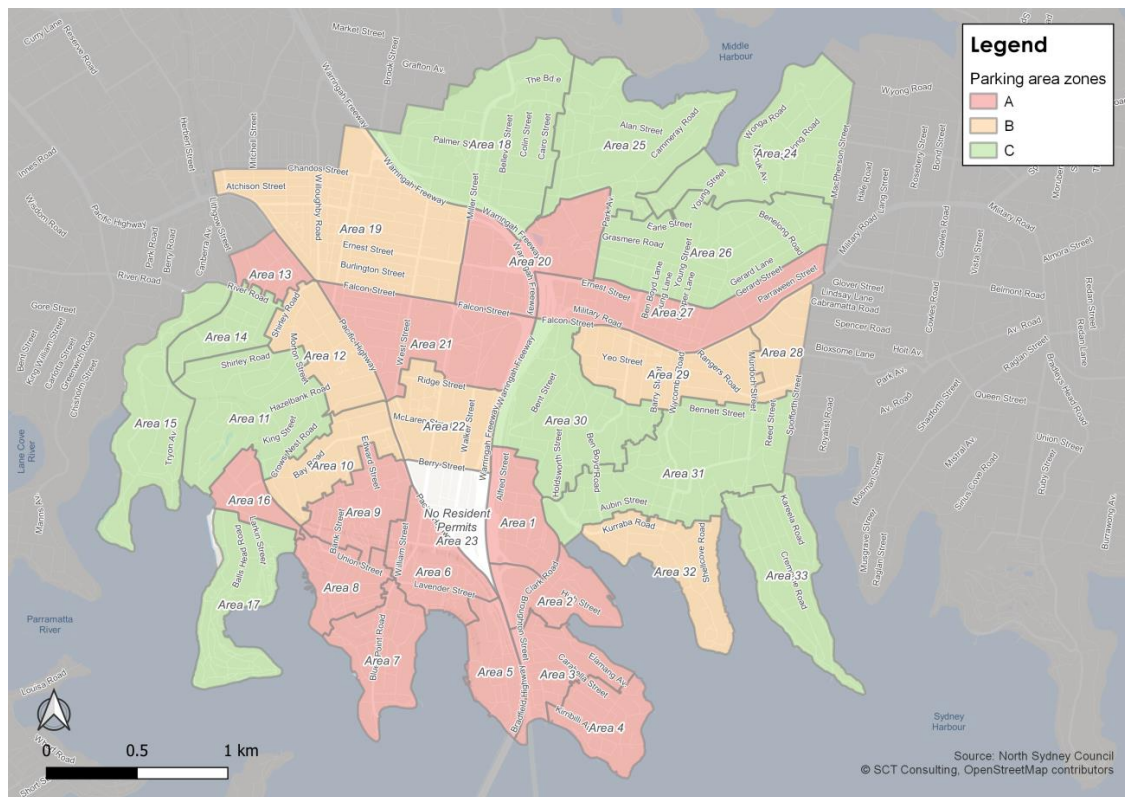


Table 2-4 Resident parking maximum entitlement

Property Description	Maximum Entitlement		
	Zone A	Zone B	Zone C
Detached house, Semi-detached house, Boarding house (per building), Duplex (per unit)	2	3	3
Attached dwelling (Townhouse):			
a. Three or more bedrooms	2	3	3
b. One or two bedrooms	1	2	2
Apartment Buildings in Mixed Use Zones (B4), Commercial Core Zones (B3), Special Use Zones (SP1 & SP2) and Neighbourhood Centre Zones (B1) - per unit			
a. If Development Approval given before 30/6/98 &/or Occupation Certificate given before 30/6/99	1	1	1
b. If Development Approval given from 1/7/98 &/or Occupation Certificate given from 1/7/99	0	0	0
Apartment Buildings outside Mixed Use Zones (B4), Commercial Core Zones (B3), Special Use Zones (SP1 & SP2) and Neighbourhood Centre Zones (B1) - per unit			
a. Three or more bedrooms	1	2	2
b. One or two bedrooms	1	1	2

Source: North Sydney Council, 2021

The parking permit scheme works in conjunction with the Development Control Plan to shape the number of available parking spaces for residents. As the Development Control Plan applies only to new and some modified dwellings, the parking policy shapes most of the current car ownership levels for residents in the permit scheme.

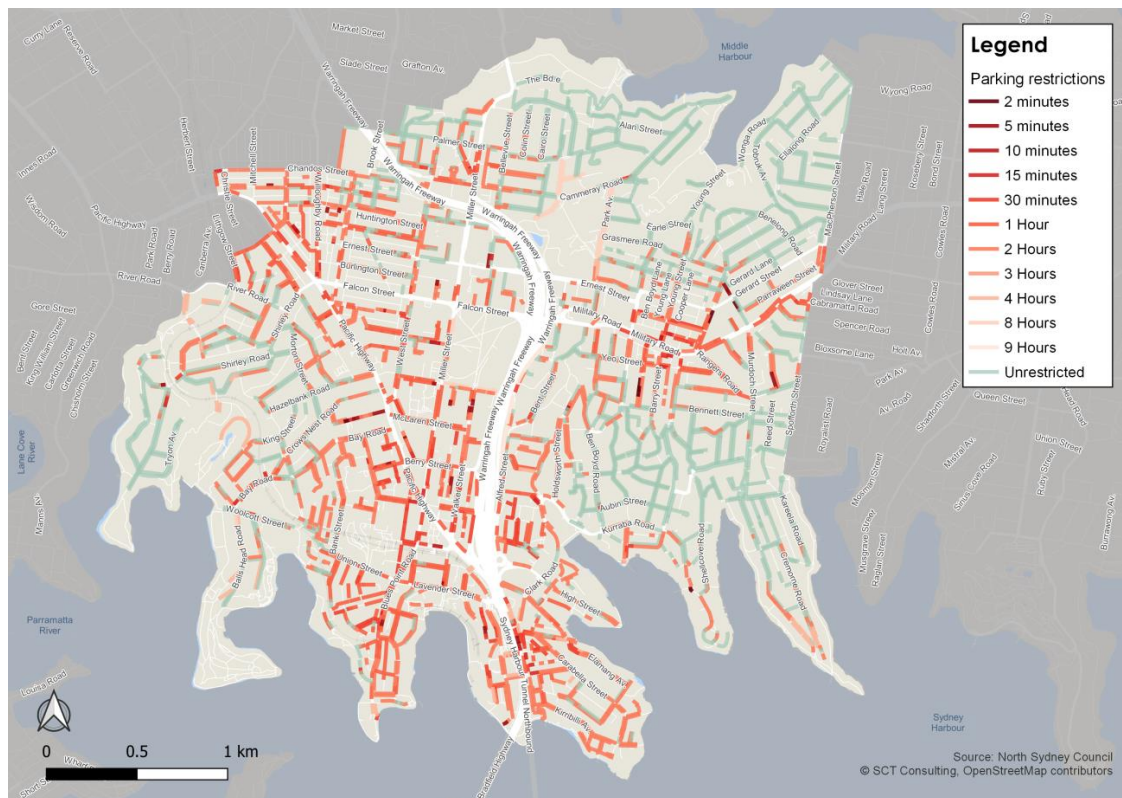
2.3.3 On-street parking restrictions

North Sydney LGA implements a range of on-street parking restrictions including metered, timed, unrestricted parking, and specialist uses such as bus zones and loading zones. Most parking restrictions vary based on the day of the week and time of day.

Metered parking is mostly implemented in the vicinity of major centres and can be found in North Sydney CBD, Crows Nest, Neutral Bay, and Milsons Point. All metered parking spaces are also time-limited, with a range from 15 minutes to nine hours.

On-street timed parking is implemented more widely throughout LGA compared to metered parking. Parking restrictions for timed parking range from two minutes up to nine hours, with more restrictive limits closer to key attractors such as commercial areas, schools, parks, and public transport. Completely unrestricted on-street parking is located only in a few areas due to a large number of trip attractors in the LGA. **Figure 2-3** illustrates the most restrictive time limit for each on-street space across the LGA, though this restriction may change depending on the time of day and day of the week.

Figure 2-3 Timed parking restriction in North Sydney LGA (most restrictive limit)



2.4 Best practice in parking policies

In the development of a clear problem statement, it's important to understand what the evidence shows about parking and traffic policy in the urban context. Parking is a topic close to the heart of many residents so it's important that academic evidence be used in forming Council policies.

2.4.1 Road widening schemes are limited in ability to resolve congestion

Anthony Downs in his *Law of Peak-Hour Traffic Congestion: On urban expressways (highways)*, states that peak-hour traffic congestion rises to meet maximum capacity. Behind the law are several factors which affect commuter decision-making. Income, cost, origin, comfort and convenience are all variables that can decide whether a commuter decides to drive or ride. The law was later built upon by academics David Lewis and Martin J. H. Mogridge in their work *The Lewis–Mogridge Position*. They argued, that traffic increases to meet additional road space. This is particularly the case in urban areas like North Sydney.

The Lewis–Mogridge Position elaborates on the Downs theory by arguing travel time gains from new roads can often disappear within months or even weeks when a transfer of traffic onto the new route occurs.

New roads can, under certain circumstances alleviate congestion in one location, but because the traffic network is a system, congestion is generally moved to another location.

For North Sydney Council and TfNSW to tackle congestion, local widening schemes would not provide substantial and long-term traffic congestion alleviation. Other interventions are necessary.

2.4.2 There is a strong link between car ownership and driving

In his work explaining the relationship between the built environment and the mode choice of residents in Sydney, McKibbin showed that various factors influence people's propensity for driving vs public transport: density, land use diversity, accessibility by public transport vs car, distance to a train station and cars per household. Of all these influencing factors, the number of cars per household was the greatest predictor. The elasticity, a measure of the responsiveness is approximately 1.0, meaning that a doubling in the number of cars leads to a doubling in car use.

There is evidence that car ownership is driven more by parking availability in highly urbanised areas than the other important factors of income and demographics.⁸

Hence parking supply is linked intrinsically to levels of driving and levels of congestion.

Council's policies on parking and traffic are linked. Greater car ownership is inexorably connected to more driving and more congestion.

2.4.3 Off-street parking adds to housing cost

Construction of off-street parking costs between \$15,000-\$45,000⁹ depending on location, price of land, labour market costs and construction requirements. North Sydney's urban land use intensity means it would likely sit at the higher end of this spectrum for new apartments.

This cost is passed onto future owners, with significant markups in some cases. Prices increases of up to \$300,000 have been recorded in Sydney associated with a single parking space¹⁰. Rental of these spaces varies from \$225 per month up to \$1,100 per month in North Sydney LGA¹¹.

This significant cost of parking reduces housing affordability, particularly when car parking is bundled with the purchase of housing. The mandatory parking space doesn't allow prospective buyers to opt for car parking.

⁸ Zhan Guo, Does residential parking supply affect household car ownership? The case of New York City, *Journal of Transport Geography*, Volume 26, 2013, Pages 18-28.

⁹ <https://blogs.crikey.com.au/theurbanist/2015/07/29/do-railway-stations-need-multi-storey-car-parks/>,
https://www.transport.wa.gov.au/mediaFiles/projects/DOT_P_PricingModelCarParking.xls

¹⁰ <https://www.domain.com.au/money-markets/why-cars-arent-sitting-in-their-topdollar-garages-20180808-h13oxi-757016/>

¹¹ <https://www.parkhound.com.au/parking?lat=-33.8396&lng=151.205&keyword=North+Sydney%2C+New+South+Wales%2C+Australia&suburb=Sydney&state=NSW&limit=>

2.4.4 Role of car share

Car share provides an important role in the market for parking and driving. Operators in North Sydney such as GoGet, Lyft, and Car Next Door, are now conspicuous in many streets of North Sydney LGA.

Cervero et. al. are the authors of a seminal article on car share, reviewing the implications of City CarShare after its introduction in San Francisco, Cervero et. al. conducted a review of the impacts of the new market entrant. The study found that the presence of a car share operator resulted in:

- Members reduced travel distance by 4.26 miles per day compared with non-members
- Members consumed 0.14 fewer gallons (0.64 litres) of petrol per day compared with non-members
- Members were more likely than non-members to reduce their car ownership and less likely to purchase additional vehicles.

At first glance, the presence of additional driving options leading to a reduction in driving appears counter-intuitive. Researchers attribute the result as follows *“carsharing promotes judiciousness in travel behaviour, tied to participants becoming more mindful of the marginal costs of driving a car”*.

When customers first decide to use a car-sharing option, it has the upfront benefit of the proceeds of the sale of their car (or avoiding the expense of never owning a vehicle). The customer then needs to pay each time that the car-share vehicle is used (marginal cost), rather than expenditure that is not tied to use (e.g. monthly repayments or a single upfront payment). The customer finds that if they can avoid using the car-share vehicle, they can save on the cost of the journey. As a result, the customer ends up driving less as the costs become increasingly 'visible' to them.

In addition to encouraging members to drive less, car share services act as an enabler for people to not own a car. Not owning a car in the past meant either limiting trips to public transport, hire cars (such as taxis) or car rentals (which are often located at depots, and not near residential areas). This meant that not owning a car would be inconvenient, restrictive, or expensive whenever a trip involved destinations with no public transport. Car share services significantly reduce the traditional pain points of not owning a car and therefore enable the option to not own a car at all.

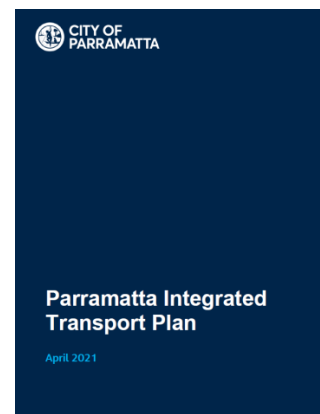
Car share should therefore be conspicuous. Bays and cars should be visually prominent and incentivised appropriately in the development assessment process so that residents are aware of the alternative to private car ownership.

2.4.5 A comparison - City of Parramatta Council Integrated Transport Plan

The *Parramatta Integrated Transport Plan* outlines how Parramatta City Council approaches transport in the CBD in 2036. One of the key mode share targets is to decrease journey to work car mode share from the existing 49% to 40% by 2036.

Supply and demand analysis shows that the current Parramatta CBD parking rates have the potential to enable significantly higher volumes of private vehicle traffic due to low cost and high parking supply. However, an increase in private vehicle volumes would lead to increased congestion which in turn will impact community health and all road-based travel modes including commercial vehicles and buses, decrease urban amenity and 'place' function of Parramatta CBD, decrease economic productivity, and devalue the land that comprises Parramatta CBD. Therefore, it would be difficult to achieve the aspirational mode share target of 40% for work trips by 2036 without intervention that provides alternatives.

In response to these challenges, Council adopted an interim parking policy for Parramatta CBD to address the parking supply issue. The new parking policy is based on the City of Sydney Local Environmental Plans (LEP) parking rates for residential and commercial land use, which introduces a maximum permissible number of parking spaces within the Parramatta CBD. Results from strategic (Strategic Travel Model) modelling show that when the additional trips expected for 2056 with the interim parking rate in place led to a reduction of 8-10% of the overall driving demand forecasted. In addition to making the new parking policy permanent, the plan also recommends increasing parking prices, providing satellite parking, repurposing existing car parks, and continuing to improve active transport infrastructure and public transit coverage and frequency.



2.4.6 A comparison - City of Sydney Council Connecting Our City

Connecting Our City is a 25-year integrated transport and land use strategy which helps the City of Sydney plan for central Sydney's future. One of the key mode share targets is to reduce the existing journey to work car mode share by 33% in 2036. To help achieve this, the Council will develop a comprehensive parking policy that will:

- Balance competing demands for the limited road space
- Limit parking in areas with high access to public transport and services
- Reduce the volume of private car commuters to Central Sydney
- Encourage commercial; car park owners and managers to make their car parks more sustainable, for example converting some spaces to bicycle parking and end-of-trip facilities such as showers, electric vehicle recharging points and storage / logistics facilities
- Review potential for four-hour parking in the evenings where it can support retail, cinema, theatre, and dining.



To implement this, the City of Sydney has published two parking policies. The *Neighbourhood Parking Policy* establishes a range of parking controls and permits to guide the management of parking across diverse neighbourhoods to meet the City's transport, economic, social, and environmental objectives. While the *Central Sydney On-Street Parking Policy* establishes criteria and service objectives for allocating kerbside parking and loading in central Sydney. For example, the City of Sydney recommends pay parking in areas that have high occupancy rates or are close to commercial / mixed use developments.

The City of Sydney complements this objective by implementing parking maximums in its DCP, with parking provisions being more limited in areas where land use is closely integrated with public transport options

2.4.7 A comparison – Adelaide City Council

Parking for the square mile is a study of parking in the Adelaide City CBD published by the council in 2010. At the time of the study, the city had 54,000 parking spaces in the Square Mile and commuting to the city by car was the dominant mode of transport. The study was intended to support increased uptake of sustainable transport modes while maintaining the economic competitiveness of the Square Mile.

The study recommended the following actions:

- Improve utilisation of existing council parking assets
- Removing minimum parking requirements for developments
- Implementing an off-street parking levy
- Implement a performance-based on-street parking policy
- Use prices as the preferred demand management tool
- Wind down the Residential Parking Permit scheme.



Source: Adelaide City Council, 2014

The study also acknowledged that a comprehensive marketing strategy to communicate the benefits of parking reforms to key stakeholders to help deliver the recommendations.

This study shows that demand-responsive parking policies are being used in Australia and shows an example of how they could be implemented.

Due to the scale of change, the study recommended several initiatives to increase community acceptance:

- *“Outcomes – Council should ideally consult on the outcomes of the proposed parking reforms, rather than proposals for individual streets;*
- *Hypothecation – It is important that parking revenues are hypothecated to the benefit of the local community, most frequently to improve access; and*
- *Performance monitoring - Performance monitoring allows Council to proactively anticipate and respond to issues while also gathering information on the demonstrable benefits of parking reforms.”*

2.4.8 A comparison - Auckland draft Parking Strategy

Auckland's draft Parking Strategy provides the guiding principles and policies for the planning, supply, management, and repurposing of parking in Auckland. It was developed to include a greater focus on land use intensification, encouraging transport by modes other than the private motor vehicle, requirements to tackle climate change and creating a safer transport system.

The strategy groups the city's areas into tiers where parking needs to be most proactively addressed and lays out parking principles to guide how they approach the management of parking. These include:

- The road network is a valuable public asset that needs to be managed to benefit all Aucklanders
- Ensure parking encourages travel by sustainable modes, prioritises trips other than private motor vehicles and enables kerbside space to be utilised for more beneficial activities

A key aspect of Auckland's Parking Strategy is its readability for an everyday audience, with a focus on ensuring that the community understood both the what and the why of the strategy.

To do this, it addresses key fears through positive and educational messages and videos that are easy to understand. Examples include:

- "As a growing city, we need to make sure we use our limited space most efficiently"
- "Responding to increased demand for on-street parking as the city grows. In some areas, residents won't be able to rely on on-street parking to store their vehicles."
- "Many people ask 'What's wrong with the current car-focused transport system?'"
- "Building roads won't fix congestion, it will probably make it worse"
- "Historically Auckland has under-invested in public transport, cycling, and walking"
- "We will focus on Tiers 2 and 3 areas as they have the best access to public transport and other services"

Community support is critical to the success and celebration of any strategy, and careful thought and investment should be put into any parking strategy for North Sydney.



Figure 2-4 Key messages presented through social media by Auckland Transport



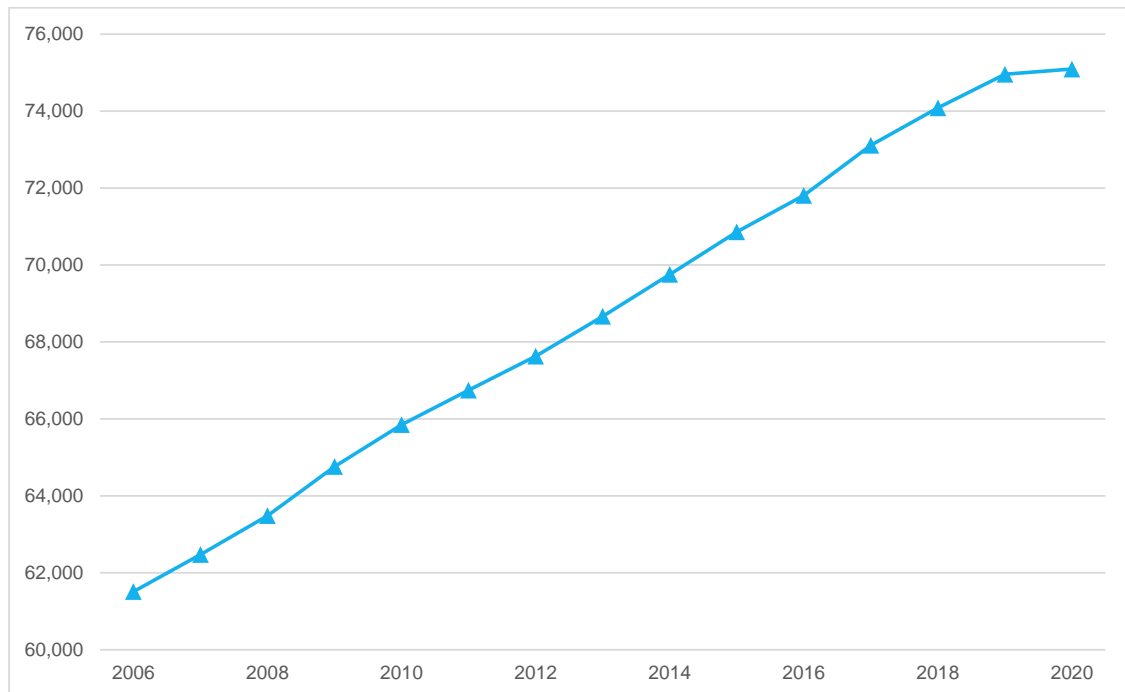
Source: Auckland Transport, 2022

2.5 Population and travel behaviour

2.5.1 The population is projected to increase

The population of North Sydney is growing. Growth between 2011 and 2016 was 7.6% to 71,809, with the population estimated to be 84,422 by 2036. North Sydney's population from 2006 is charted in **Figure 2-5**.

Figure 2-5 North Sydney estimated population, 2006-2020

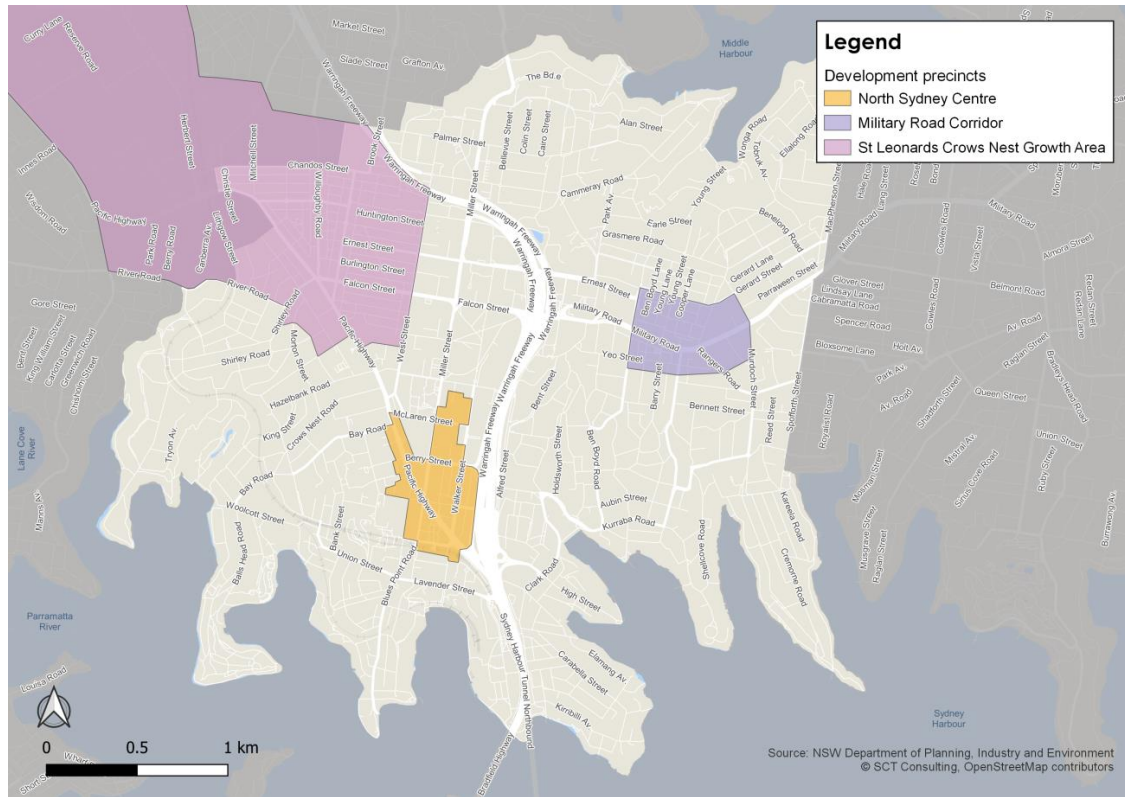


Source: Australian Bureau of Statistics, Regional Population Growth, 2020

Department of Planning and Environment forecasts for the LGA is that about 3,500 dwellings are expected to be added to North Sydney in the next decade and a half, growing from 40,215 in 2021, to 43,795 in 2036.

Future growth is expected to be concentrated in the local and state-led development precincts highlighted in **Figure 2-6**. The focused increase in residential density and commercial floor space in these growth precincts will lead to an increase in demand for transport. Without careful management, the result will be increased traffic, associated externalities and declining safety and amenity across North Sydney. Parking policy in these growth areas should be set to manage parking demand and traffic growth to ensure North Sydney's transport strategy priorities can be realised.

Figure 2-6 Development precincts in North Sydney LGA



2.5.2 Car ownership is steady despite rising income levels

Despite rising income levels, car ownership in North Sydney has held steady, at around 0.5 cars per resident since 2001. While this is good news, the population grew 7.6% to 71,809¹² in the same period, with this number projected to be 84,422 in 2036¹³. A constant car ownership rate with a growing population means that the total number of cars in North Sydney will increase.

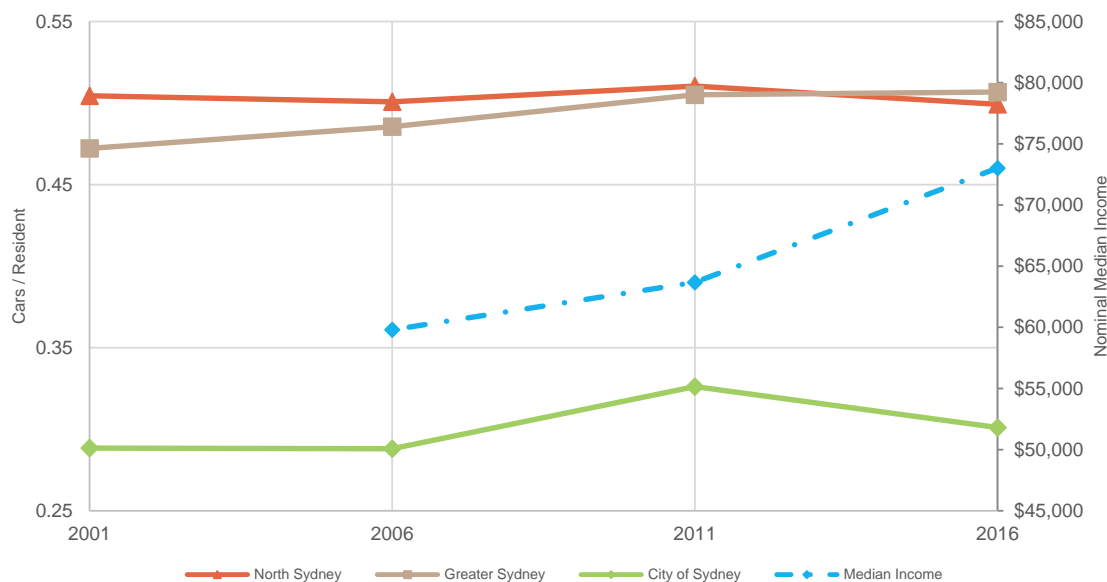
Car ownership rates are not even across the LGA, however. Car ownership in the development precincts (shown in Figure 2-6) already has lower rates compared to the rest of the LGA, such as Crows Nest / St Leonards with an average of 0.44 cars per resident. This is likely a result of the high-density residential development in this area, better public transport access, and the more restrictive maximums required by the DCP.

Figure 2-7 compares the cars per resident in the North Sydney LGA to Greater Sydney and the City of Sydney LGA, and median personal income over the available census years since 2001.

¹² Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016

¹³ Australia Bureau of Statistics, Estimated Resident Population, 2016

Figure 2-7 Cars per resident and median personal income, North Sydney LGA, 2001 to 2016



Source: Australian Bureau of Statistics, 2021

2.5.3 Travel behaviour of North Sydney residents

North Sydney residents use cars for 43% of their trips, lower than the Greater Sydney average (58%), reflecting a lower dependency on cars and a higher uptake of sustainable and active modes of transport. A comparison of mode share between North Sydney, City of Sydney and Parramatta LGA is presented below in **Table 2-5**.

Table 2-5 Travel by mode, Household Travel Survey 2018/19

Mode of travel	North Sydney		City of Sydney		Parramatta	
	Mode share	Average distance	Mode share	Average distance	Mode share	Average distance
Vehicle Driver	31%	10 km	20%	10 km	43%	10 km
Vehicle Passenger	12%	18 km	5%	6 km	19%	7 km
Train	11%	8 km	7%	9 km	7%	23 km
Bus	6%	5 km	6%	5 km	8%	10 km
Walk Only	36%	1 km	57%	1 km	22%	1 km
Other	4%	8 km	5%	5 km	3%	5 km
Total	100%	-	100%	-	100%	-

Source: TfNSW Household Travel Survey, 2018/2019

2.5.4 COVID-19 has unclear impacts on travel behaviour

The global COVID-19 pandemic has changed travel behaviours and preferences, with public transport use declining. The ABS reported that “Of the people who reported regularly using public transport before COVID-19 restrictions began, around one in six (18 per cent) reported they had not used public transport since March 2020.”¹⁴ The same article also reports that there may be a permanent impact – an increase “After the COVID-19 pandemic, three in five

¹⁴ <https://www.abs.gov.au/media-centre/media-releases/fewer-australians-using-public-transport-after-covid-19>

people (61 per cent) expect their public transport use will remain the same, while 13 per cent expect their use to increase and 7 per cent expect it will decrease" (emphasis added).

COVID-19 has the potential to substantially change levels of working from home. The ABS reports that "the latest Household Impacts of COVID-19 Survey conducted from 12 – 21 February 2021, showed two in five people with a job (41 per cent) worked from home at least once a week in February 2021, compared with 24 per cent at least once a week before March 2020"¹⁵. When asked about working from home preferences, the same survey showed that:

- "42% of employed Australians wanted the amount of work from home to stay the same
- 14% wanted the amount of work from home to increase
- 8% wanted the amount of work from home to decrease
- 9% would prefer to not work from home
- 26% had jobs that could not be done from home."

With most Australians wanting to work from home to stay the same or increase, there is a significant potential for work from home levels to continue after the pandemic ends.

With both these trends, the impact on car ownership is unclear. Increased working from home reduces the need for car use on the days, not in the office but may lead to higher tolerance of long commutes – and an increase in overall car use. Increased concern about the health risks of public transport could drive higher car use but it could also equally drive an increase in walking and cycling for short trips. This effect may decline once the population reaches herd immunity.

With the potential for increased car ownership levels arising from the global COVID-19 pandemic, the clear and influential policy becomes even more important.

2.6 Council car park utilisation

North Sydney Council operates multiple paid, 24/7 car parking facilities, concentrated around Crows Nest and North Sydney CBD. These provide a total of 1,686 paid, off-street car parking spaces that are used throughout the week for commuters and customers of the food and retail shops in the area.

The cost of casual parking varies depending on time and car park, with prices including:

- Free parking on the weekends
- \$15-\$25 early bird parking
- \$40-\$57 all-day maximum.

In addition to casual parking, the Council also offers permanent parking packages for guaranteed unreserved parking spaces in the car park for account holders. The average rate for a resident permanent account holder (which is discounted from the commercial rate) is \$415 a month.

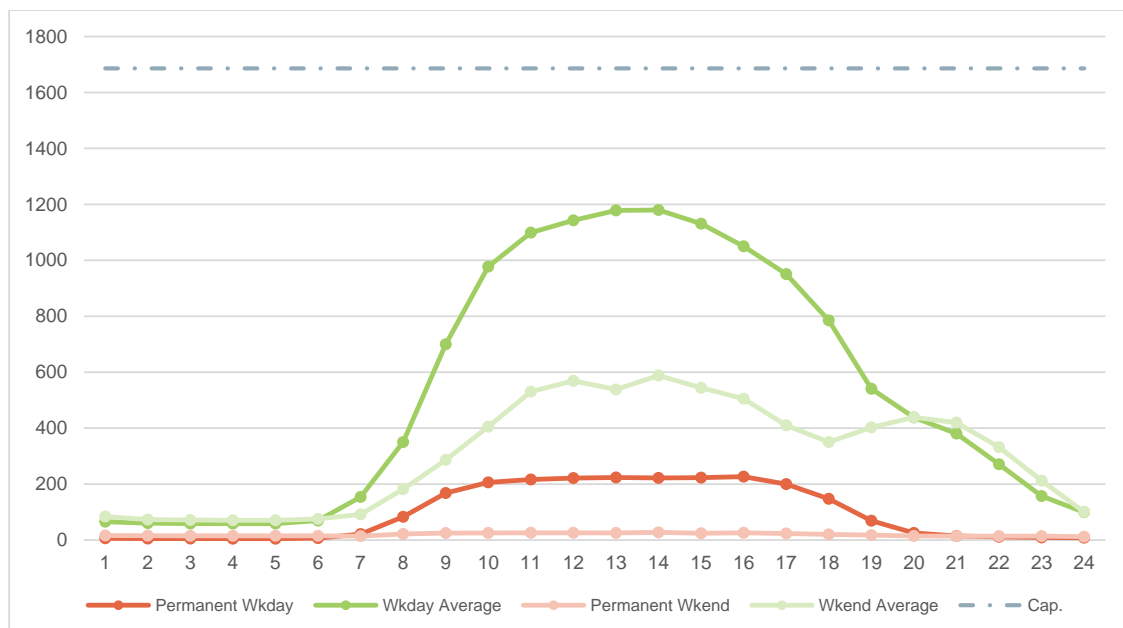
Data from June 2021 provided by North Sydney Council shows that car park utilisation peaks around the middle of the weekday, with a collective occupancy of 82%. This is equivalent to around 304 unused parking spaces. It also suggests that some car parks are more underutilised, namely Hume Street and Nicholson Street car parks in Crows Nest. Carpark occupancy data is summarised in **Figure 2-8** and **Table 2-6**.

The weekend car park occupancy is low, despite most council car parks offering free or low-cost weekend flat rates. This utilisation pattern suggests that the main users of parking lots in North Sydney are workers who drive to their weekday jobs and could reflect the current retail and recreation opportunities in North Sydney.

Most car park users are casual users, and permanent users appear to be weekday commuter users. Permanent account holders enter the car parks only during the week, and leave before the end of the day, with nearly none entering the car park during the weekends or remaining overnight.

¹⁵ <https://www.abs.gov.au/media-centre/media-releases/year-covid-19-and-australians-work-home-more>

Figure 2-8 North Sydney Council car park average occupancy throughout a typical weekday, June 2021



Source: North Sydney Council, SCT Consulting, 2021

Table 2-6 North Sydney Council carpark occupancy by carpark, June 2021

Metric	Alexander Street	Holtermann Street	Hume Street	Nicholson Street	Ridge Street	Ward Street
Capacity	275	207	351	116	195	542
Maximum occupancy	250	167	249	53	176	487
Maximum occupancy day	Saturday	Friday	Tuesday	Friday	Tuesday	Tuesday
Maximum occupancy time	14:00	13:00	12:00	13:00	11:00	11:00
Maximum occupancy %	91%	81%	71%	46%	90%	90%
Max permanent users	20	23	57	22	91	49
Max permanent %	7%	11%	16%	19%	47%	9%
Spare capacity at max	25	40	102	63	19	55

Source: North Sydney Council, SCT Consulting, 2021

Importantly, the low take-up of the discount scheme for residents is a missed opportunity for supporting lower car ownership, with permanent parking packages acting as a buffer for excess demand. Residents may not be able to find or afford a residence with their preferred level of parking provision and the Council car park could offer an opt-in 'unbundled' parking option. Having viable unbundled parking options could make it easier for residents to optimise their level of car ownership and experiment with lower levels of car ownership over time.

2.7 Surplus off-street private parking

Unused parking spaces are sometimes listed on the market for rent by their owners. This behaviour suggests that there is a surplus in parking provision, or that having a car is not a need for the owner and the financial gain from renting out the space was more appealing (assuming that they will not own a car if there is nowhere to store it).

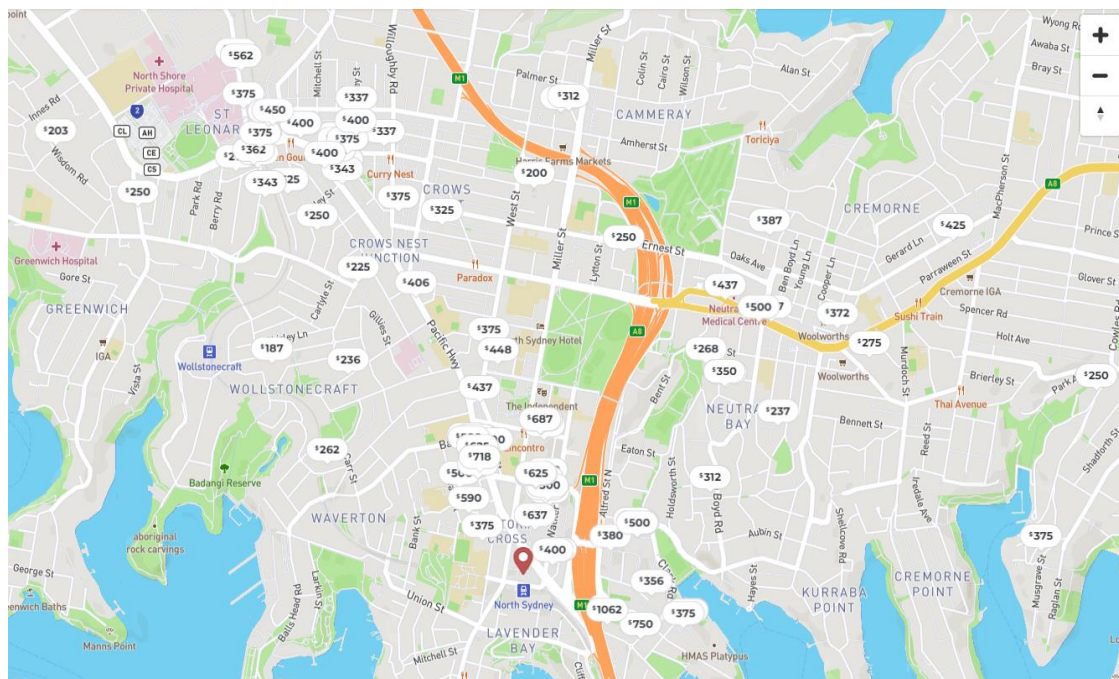
Parkhound is a platform on which unused parking spaces can be listed for rent, and approximately 100 parking spaces were listed when the website was visited in July 2022. Prices for renting a space per month ranged from \$187 to \$1,062.

As shown in **Figure 2-9**, the availability of parking spaces to rent is concentrated around areas of higher public transport access such as St Leonards and North Sydney CBD. This is despite parking rates being largely the same for similar dwelling types throughout the LGA.

This distribution is indicative of an oversupply of parking near public transport nodes. Residents who live near public transport have more alternatives to driving and are therefore less likely to need a car, or to forgo ownership, especially when given a financial incentive.

While the listed parking spaces are in part influenced by trip attractors (such as the office spaces in St Leonards and North Sydney CBD), it shows that when left to market forces, residents near good public transport are less likely to use their own parking spaces.

Figure 2-9 Private parking spaces available for rent on monthly basis - Parkhound



Source: Parkhound, 2022

2.8 Problem statement summary

The problem definition in **Section 1.0** shows that the LGA has several strengths regarding parking and traffic:

- Current levels of car ownership per person are low relative to Greater Sydney
- Car driving has declined in both the household travel survey and method of travel to work census data – despite a backdrop of increasing car ownership and driving in Greater Sydney
- The newly coming Sydney Metro is likely to drive further changes in public transport uptake in the LGA.

However, there are also certain shortfalls and challenges that North Sydney is facing regarding parking and traffic:

2.8.1 Expected growth in congestion and parking supply issues without the intervention

Car mode share and car ownership are significant in North Sydney when considering the land use, public transport availability and density of the LGA. Combined with a population growth that outpaces the decline in car ownership, North Sydney will face increasing congestion on its road network and parking supply issues.

As parking supply is a major influencing factor on car use, the North Sydney council needs to actively guide the future direction of transport in the LGA through the implementation of an effective parking policy and monitoring of parking performance indicators.



The total number of cars in the LGA will continue to grow as the population increases, with an expected population growth of 16% by 2036. The parking policy will need to be carefully implemented to ensure that North Sydney can deliver the community priorities set out in the North Sydney Transport Strategy.

There are approximately an additional 3,500 dwellings forecast to be delivered in North Sydney over the next decade and a half. Based on typical driving distances from the Household Travel Survey, this would equate to an additional 91,000 km of driving on the network on a typical weekday (about 26km per household per day).

2.8.2 Environmental impact from growth of traffic

Based on the typical carbon emission rates per km of travel in Australia¹⁶, an additional 91,000 km per day equates to a carbon footprint of 16.5 tonnes per day and 5,700 tonnes per year. At the time of writing, the spot price of carbon is \$31/ton to offset, which would require approximately \$176,000 per annum to offset.

Additional driving also translates to increased particulate matter in the air, resulting in increases in respiratory illnesses.

With parking rates locked in during construction, these changes become fixed for the life of the development – usually above fifty years.

¹⁶ <https://www.ntc.gov.au/sites/default/files/assets/files/Carbon-dioxide-emissions-intensity-for-new-Australian-light-vehicles-2019.pdf>

3.0 Parking rates and Public Transport

3.1 Assessing Public Transport Accessibility Levels

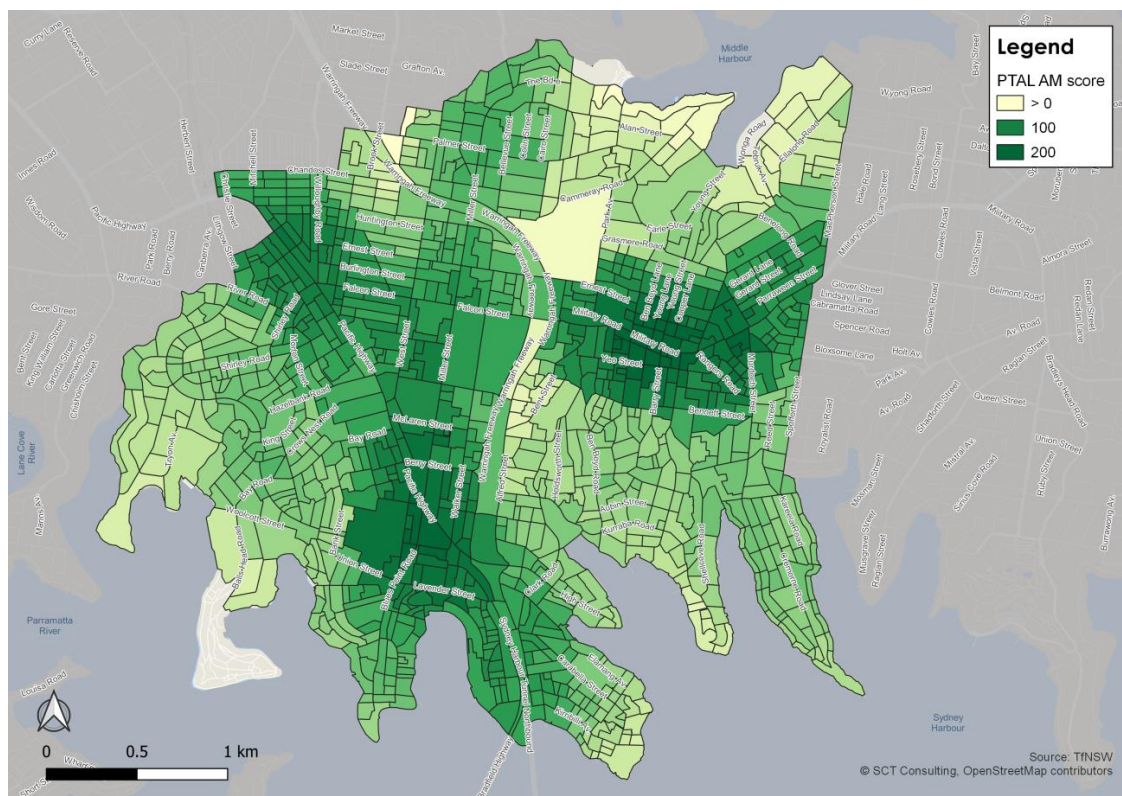
Originally created by Transport for London (TfL), the Public Transport Accessibility Level (PTAL) is a measure of connectivity by public transport, which has been used in various planning processes for many years. For any selected place, the PTAL score suggests how well the place is connected to public transport services. The score will be higher if the location:

- Is a short walking distance to transit stations or stops
- Has short waiting times at the nearest transit stations or stops
- Has more services pass at the nearest transit stations or stops
- Has major rail stations nearby.

Using a similar principle, TfNSW has also calculated PTAL scores of New South Wales by Travel Zone. The AM peak PTAL score for North Sydney LGA is mapped in Figure 3-1. Accessibility is highest around the North Sydney CBD, Neutral Bay along Military Road, and St Leonards along Pacific Highway. These locations all run along the ridges through the LGA, where the major movement corridors are located.

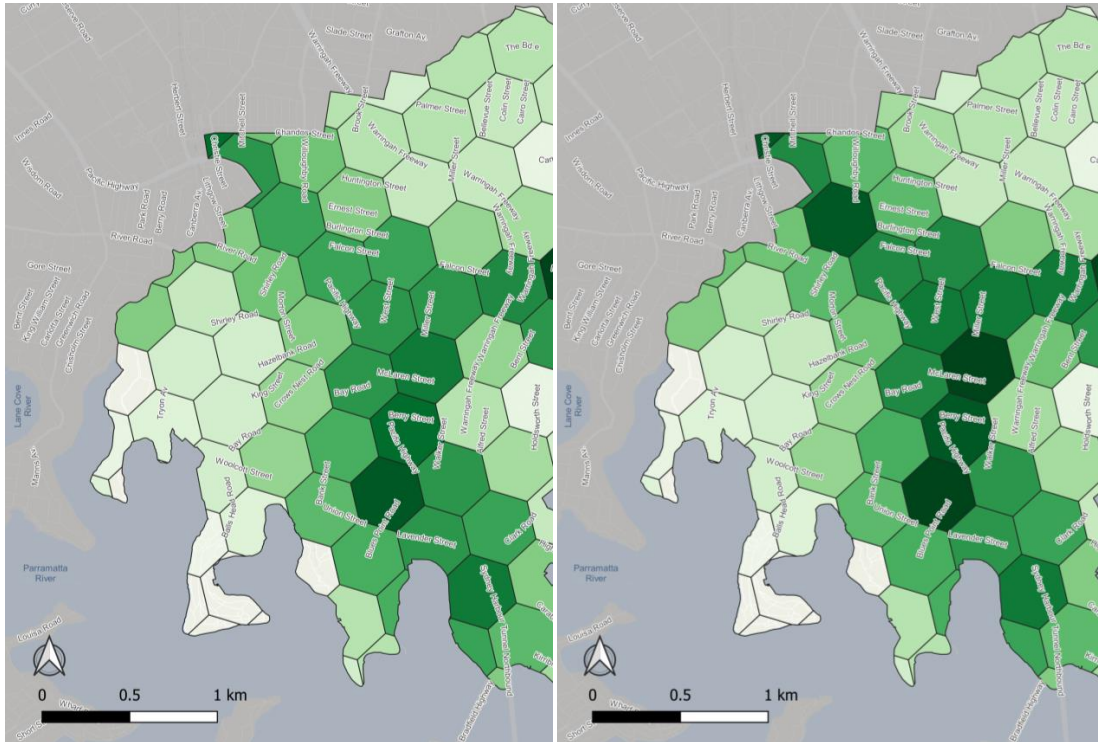
The PTAL score falls for locations further away from these movement corridors as buses do not run as frequently, the street network is non-grid-like which increases walking distances, and the fall in elevation towards the shorelines makes walking difficult.

Figure 3-1 North Sydney PTAL score, AM Peak 2019



Public transport accessibility will increase in 2024 with the opening of Metro City & Southwest stations at Crows Nest and Victoria Cross. Analysis by Kinesis shows how the PTAL score will increase (darker is better) around the station locations once the service is operational, illustrated in Figure 3-2.

Figure 3-2 PTAL before (left) and after (right) the opening of Metro City & Southwest



Source: Kinesis, 2021

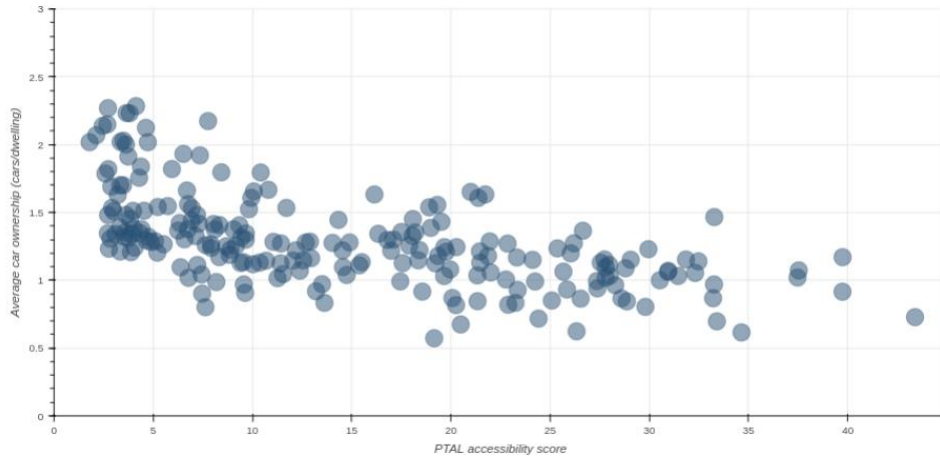
3.2 Using public transport to predict car ownership

Public Transport Accessibility Level (PTAL) is a helpful tool to indicate demand for parking supply as it is a measure of the alternatives to driving. A critical factor in reducing the demand for driving is to increase the accessibility of public transport and active transport, while the flipside is also true, that parking supply can be reduced in areas where PTAL is high.

Kinesis developed an accessibility-based Residential Parking App to provide location-specific and up-to-date recommended residential parking rates for anywhere in Australia based on historical data. The app predicts car ownership and the associated demand for parking supply based on accessibility to public transport and historical car ownership.

The relationship between PTAL and existing car ownership for the North Sydney LGA is shown below.

Figure 3-3 PTAL accessibility score vs average car ownership, measured at SA1 level for North Sydney – Mosman

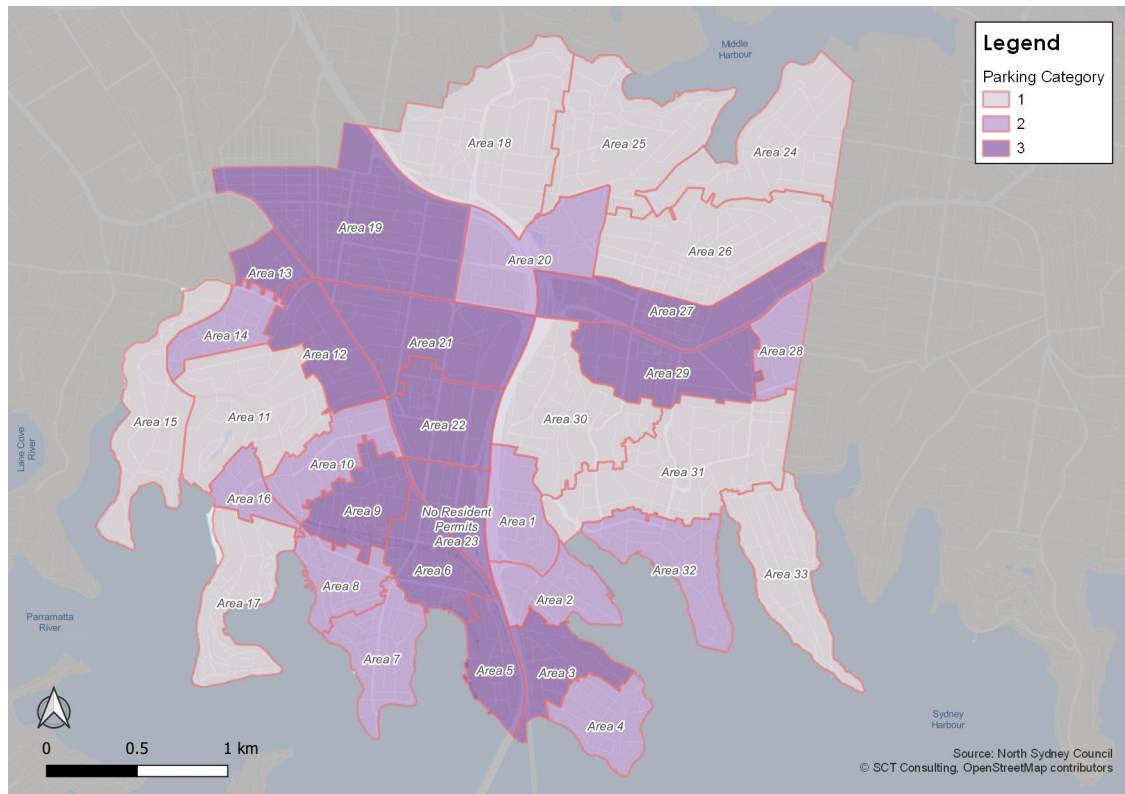


Source: Kinesis based on ABS data, 2021

3.3 Parking area categorisation by public transport accessibility

Based on the PTAL score throughout the LGA, we have categorised each parking area in the LGA (Figure 3-4).

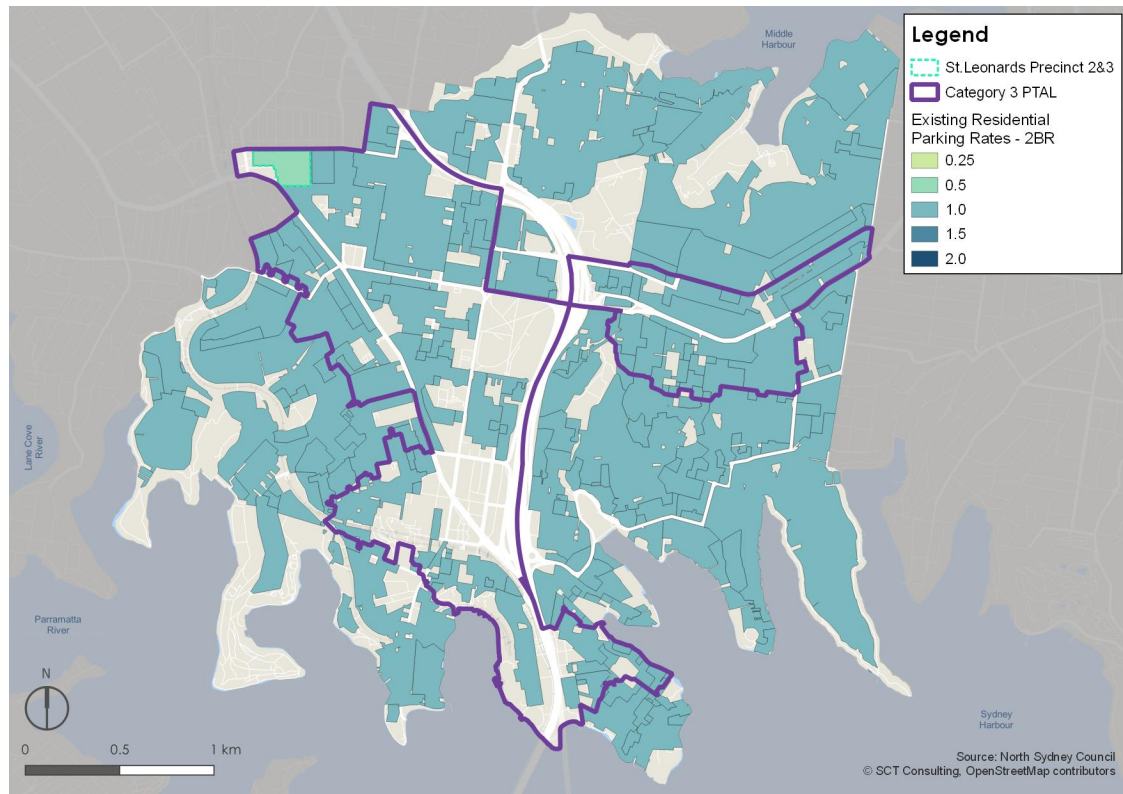
Figure 3-4 Suggested parking categories for LGA parking areas, based on PTAL score



3.4 Comparison of parking rates and public transport access

A comparison is provided of parking rates for two-bedroom apartments and Category 3 (the highest tier of public transport access) in **Figure 3-5**. To visualise PTAL simply, the outline of existing parking areas that have the highest PTAL scores in North Sydney are outlined in purple.

Figure 3-5 Parking rates for 2 bedroom dwellings, with high PTAL parking areas outlined



This shows how a 2-bedroom dwelling in Kurraba Point has the same parking maximum as a 2-bedroom dwelling right outside Milson's Point train station, despite Kurraba Pointing having no bus stops or train stations.

The Category 3 PTAL precinct also aligns with where the greatest supply of private parking spaces is available for public rent (**Figure 2-9**). Together, there is a clear picture of the oversupply of parking near public transport nodes.

The current North Sydney DCP does not account for Public Transport Accessibility Levels, linked only to dwelling type and land zoning. This means that a dwelling that is a 5-minute walk from a train station could be permitted to have as much parking as a dwelling with the same number of bedrooms that is a 20-minute walk.

4.0 Parking Rate recommendations

4.1 Recommendation #1: set residential off-street parking rates for apartments using PTAL category

As shown in Section 3.0, there is a disconnect between PTAL and off-street parking rates. This results in an over-supply of parking near public transport nodes and the market monetising these spaces.

By comparing expected car ownership with PTAL, it is possible to tailor the off-street parking rates to how accessible transport alternatives are in each area of the LGA. A comparison of expected ownership to the current DCP allocation is shown in **Table 4-1**.

Table 4-1 Comparison of car ownership and DCP off-street maximums

Apartment type	Lower accessibility		Middle accessibility		Higher accessibility	
	Average	Range	Average	Range	Average	Range
Expected car ownership based on the Kinesis app						
Studio	0.6	0.3-1.1	0.6	0.3-1.0	0.5	0.2-1.0
1 bed	0.7	0.4-1.2	0.7	0.3-1.2	0.6	0.3-1.1
2 beds	1.0	0.5-1.5	0.9	0.5-1.5	0.8	0.4-1.4
3 beds	1.2	0.7-1.8	1.2	0.7-1.8	1.1	0.6-1.7
Current DCP maximum allocation (parking spaces/unit)						
Studio	1		1		0.25-0.5	
1 bed	1		1		0.25-0.5	
2 beds	1		1		0.5-1	
3 beds	1.5		1.5		0.5-1	

The comparison indicates that the maximum parking rate is at times much higher (e.g. for a studio apartment in a low accessibility area which has 1 parking space per unit but residents desire on average 0.6 cars per unit) or much lower (e.g. for a studio in St Leonards Precincts 2 & 3 which has a parking maximum of 0.25 spaces per dwelling but residents desire on average 0.5 spaces per dwelling).

Instead of deciding on parking rates by land zoning, parking rates can be determined by PTAL and expected car ownership, balanced by considering the number of households that will be affected by rate changes. A starting point for consideration and discussion could look like the rates presented in **Table 4-2**. These rates are linked to the relative level of public transport accessibility in the LGA, with parking category 3 being the highest PTAL scores, and parking category 1 being the lowest PTAL scores within North Sydney.

Note that council should consider expected future PTAL scores when drafting parking rates, rather than only existing PTAL. This is particularly the case for North Sydney where two new Metro stations will be delivered. The two new Metro stations will provide a mass transit service at four minute frequencies during peak periods, raising PTAL in vicinity of the station to some of the highest in the LGA.

Table 4-2 Potential DCP rates, based on PTAL

Property Description	Potential DCP (per dwelling)			
	Studio	1 bed	2 beds	3 beds+
Apartment Buildings in <u>category 3 areas</u>	0.3	0.4	0.6	0.7
Apartment Buildings in <u>category 2 areas</u>	0.6	0.7	0.9	1.2
Apartment Buildings in <u>category 1 areas</u>	0.6	0.7	1.0	1.2

These rates also deliver an overall reduction in parking rates.

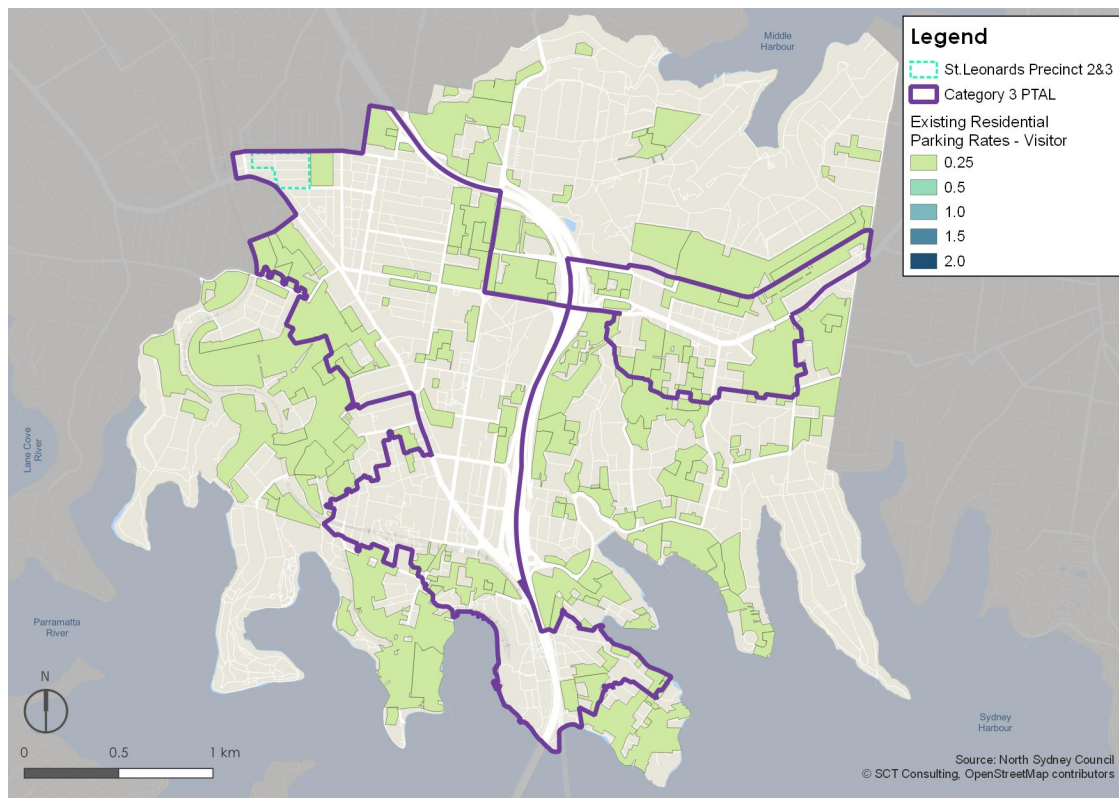
There are options to how extensively rates are changed. Rates can be implemented as site-specific DCPs, precinct-specific DCPs, or even placed in the LEP¹⁷ depending on Council's preference. These rates are the main tool for the Council to reduce future car ownership trends, providing approximately half of the car ownership reduction by 2036. However, DCP changes need to be coupled with other tools, including action in other transport portfolios.

4.2 Recommendation #2: Reduce visitor parking

Like residents, visitors also have more alternatives to car driving in areas with good public transport. Following the same argument, visitor parking rates should reflect PTAL. Visitor parking rates in North Sydney are not based on proximity to public transport, currently provided at 0.25 per dwelling, though only for a specific set of dwelling types: Attached dwellings/Multi-dwelling housing and residential flats that are not in Mixed Use Land Zoning.

This means that dwellings in Mixed Use Land Zoning, which are mostly located in high PTAL areas, already have zero provision for visitor parking. All high density dwellings follow the this precedent and reduce visitor parking provision in locations with high PTAL scores. As shown in **Figure 4-1**, there are still a significant amount of dwellings in in the highest PTAL parking areas that provide 0.25 visitor spaces per dwelling, much higher than an equivalent dwelling Mixed Use Land Zoning, even if it is just across the street.

Figure 4-1 Visitor parking rates, with high PTAL parking areas outlined



¹⁷ City of Sydney has placed parking rates in the LEP as it is a stronger form of control on parking rates

It is recommended that visitor parking rates be set similar to that of the City of Sydney Council for high density residential zones:

Table 4-3 Visitor parking proposed rates

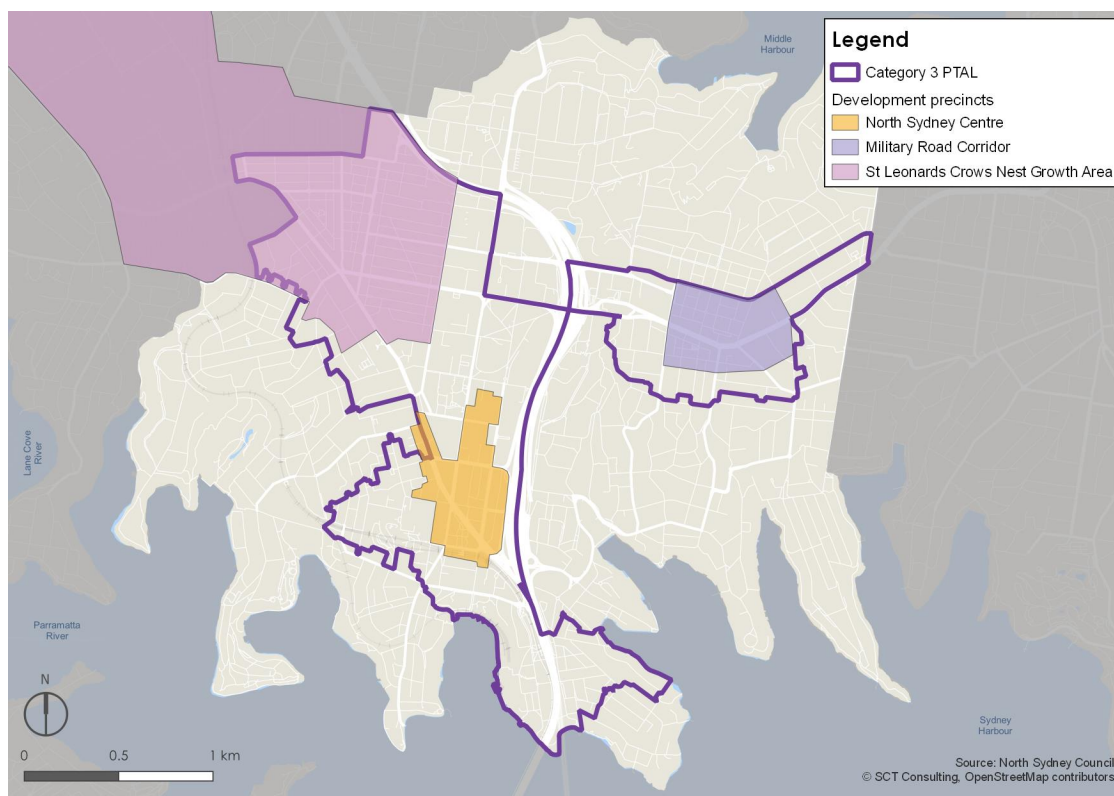
Property Description	Potential DCP (per dwelling)
	Visitor parking
Apartment Buildings in High Density Residential zoning in <u>category 3 areas</u>	Nil
Apartment Buildings in High Density Residential zoning in <u>category 2 areas</u>	0.167
Apartment Buildings in High Density Residential zoning in <u>category 1 areas</u>	0.2

4.3 Impacts of reducing parking rates

4.3.1 Parking rates will influence current precinct delivery

Future growth in North Sydney, the proposed local and state-led development precincts, fall within high PTAL areas. The St Leonards Crows Nest Growth Area, Military Road Corridor and the North Sydney CBD are all very well served by Public Transport. Being the location of future development, the high PTAL areas are both most able to shift away from car dependency and the most impactful on car ownership and trip generation for North Sydney in the coming years. The locations of the development precincts are overlaid on high PTAL parking areas in **Figure 4-2**.

Figure 4-2 North Sydney Development Precincts, with high PTAL parking areas outlined



By using these rates, these precincts will have less impact on the road network during their delivery.

4.3.2 Proposed rates will reduce car ownership

Using the prescribed parking rates, the total number of cars in the LGA would be limited to an additional 0.54 cars per household – an additional 1,870 cars in the North Sydney LGA. This would translate to a reduction of 49,000 km of driving on the network on a typical weekday. The limiting of traffic generation to 1,870 would translate to significant traffic congestion savings and a reduction in the need for any further local road upgrades.

4.3.3 Reduction of car trips and emissions

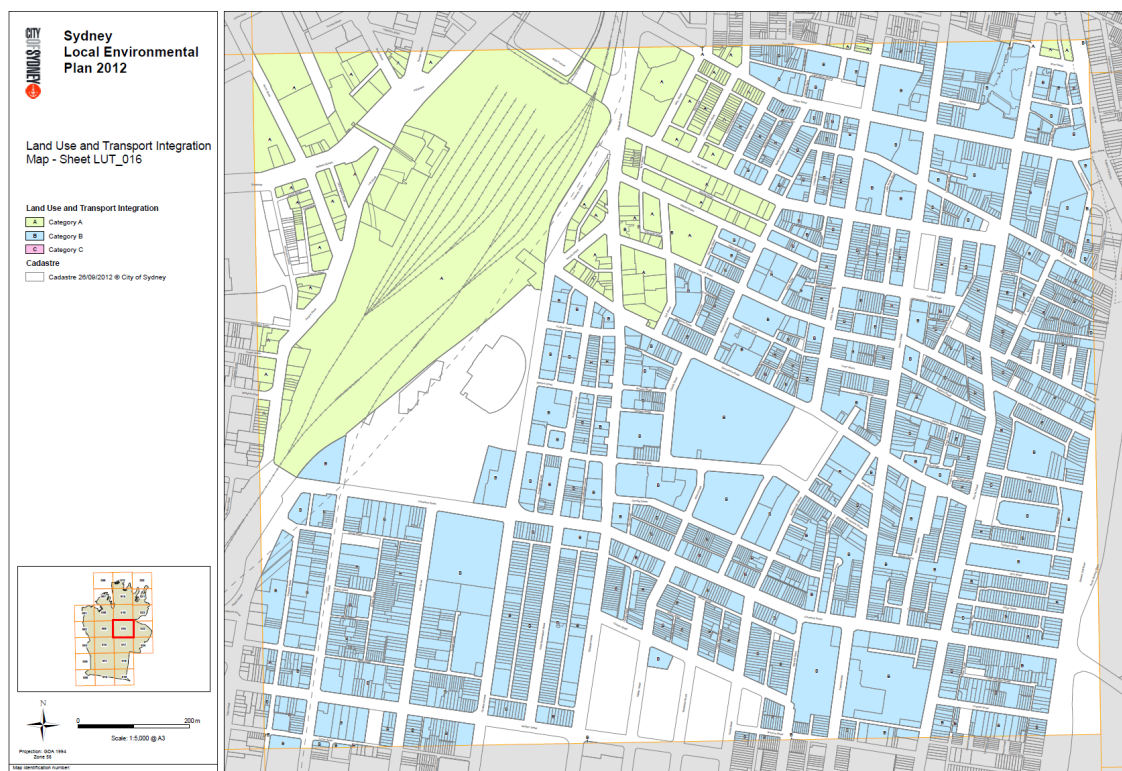
Reduced car ownership as a result of the policy would translate to a **reduction in carbon emissions by approximately 3,000 tons of CO₂ per annum**. Using the current spot price of \$31 per ton of CO₂ to mitigate, this translates to a \$94,000 per annum savings in carbon pollution impacts.

4.4 Case study - City of Sydney

The City of Sydney has long adopted this approach when considering parking rates, linking their maximum parking rates with public transport provisions in legislation. To do this, they produced Land Use and Transport Integration maps, which categorise lots into three groups based on their proximity to public transport.

As an example, the map for Central Station, Surry Hills and Strawberry Hills is shown in Figure 4-3, showing Central Station and its immediate surroundings as Category A (best integrated, and most restrictive parking maximums), with locations further away as Category B.

Figure 4-3 City of Sydney Land Use and Transport Integration Map - Central and Surry Hills



Source: City of Sydney, 2012

Parking maximums for high and medium density developments are listed for comparison in **Table 4-4**. Most notably, there is no provision for visitor parking in Category A.

Table 4-4 Maximum car parking spaces for residential flat buildings, dual occupancies and multi-dwelling housing

Dwelling Type	Category A		Category B		Category C	
	Resident	Visitors	Resident	Visitors	Resident	Visitors
Studio	0.1	-	0.2	0.167* per dwelling	0.4	0.2* per dwelling
1 bed	0.3		0.4		0.5	
2 beds	0.7		0.8		1.0	
3 beds	1.0		1.1		1.2	

Source: Sydney Local Environmental Plan, NSW Government 2012

* Visitor parking provision per dwelling reduces as the total number of dwellings in the development increases

5.0 Conclusion

5.1 Study outcomes

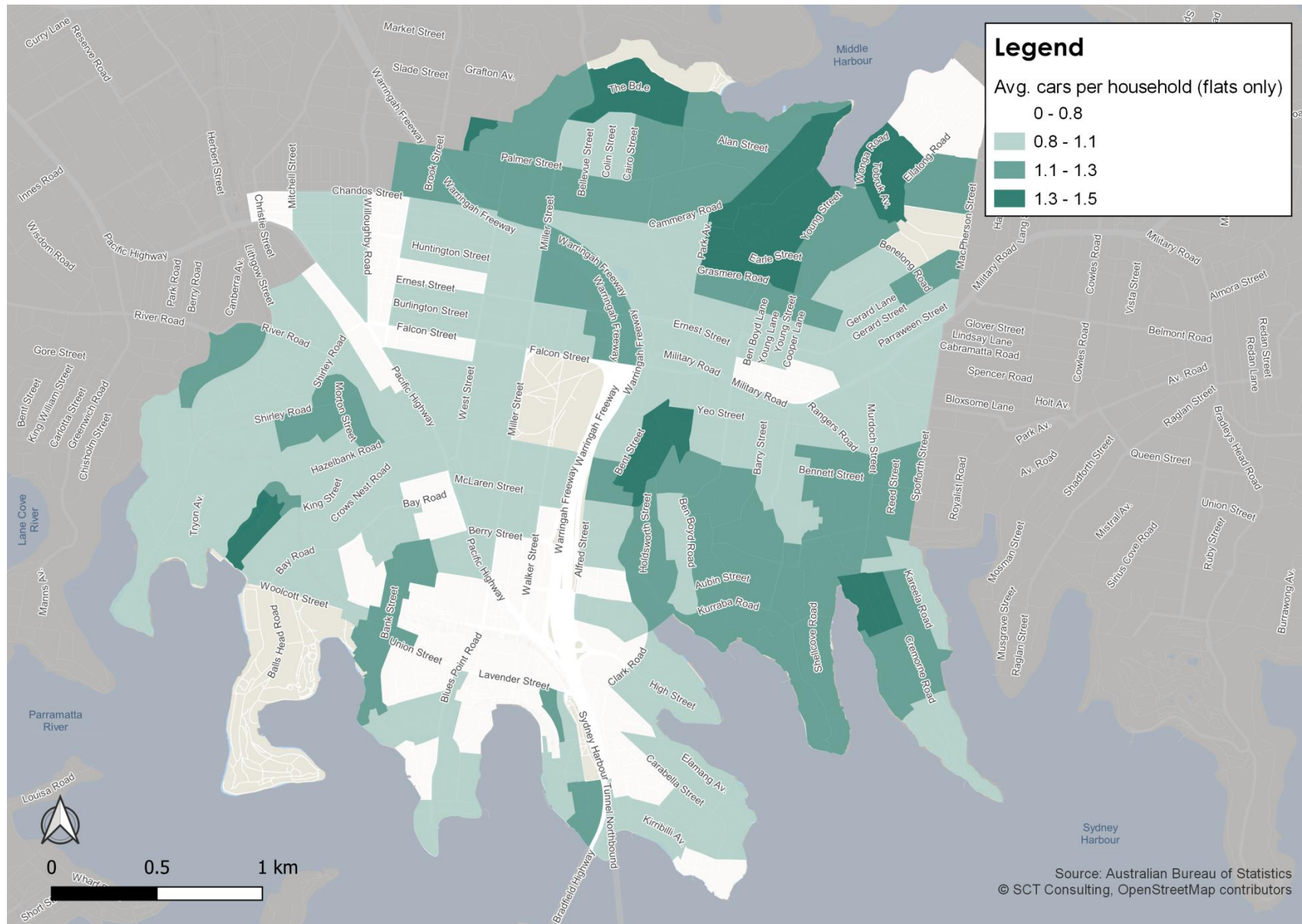
This study recommends the reduction in parking controls based on the impacts of carbon emissions and congestion impacts. This study finds that:

- Car ownership is a reliable predictor of car driving. Targeting car ownership is a recognised approach to lower the impacts of car use (congestion and environmental impacts)
- Without intervention, car use in North Sydney will grow in proportion to population growth. With 3,500 dwellings forecast to be delivered over the next 15 years, this will translate to potentially an additional 3,500 extra cars in the LGA.
- Public transport accessibility is a reliable predictor of car ownership and therefore a fair tool for the setting of parking policy. Current Development Control Plan rates are not set using public transport access, resulting in oversupply near key public transport nodes – as shown by the secondary parking market.
- Parking rates are proposed in line with public transport access and a desired net reduction in car ownership for the LGA. Visitor parking rates for High Density Residential zones are also recommended to be reduced in line with the rates used by the City of Sydney Council.
- Reducing off-street parking would result in a halving of environmental impacts of parking – saving up to 48,900 tons of CO₂ per year.

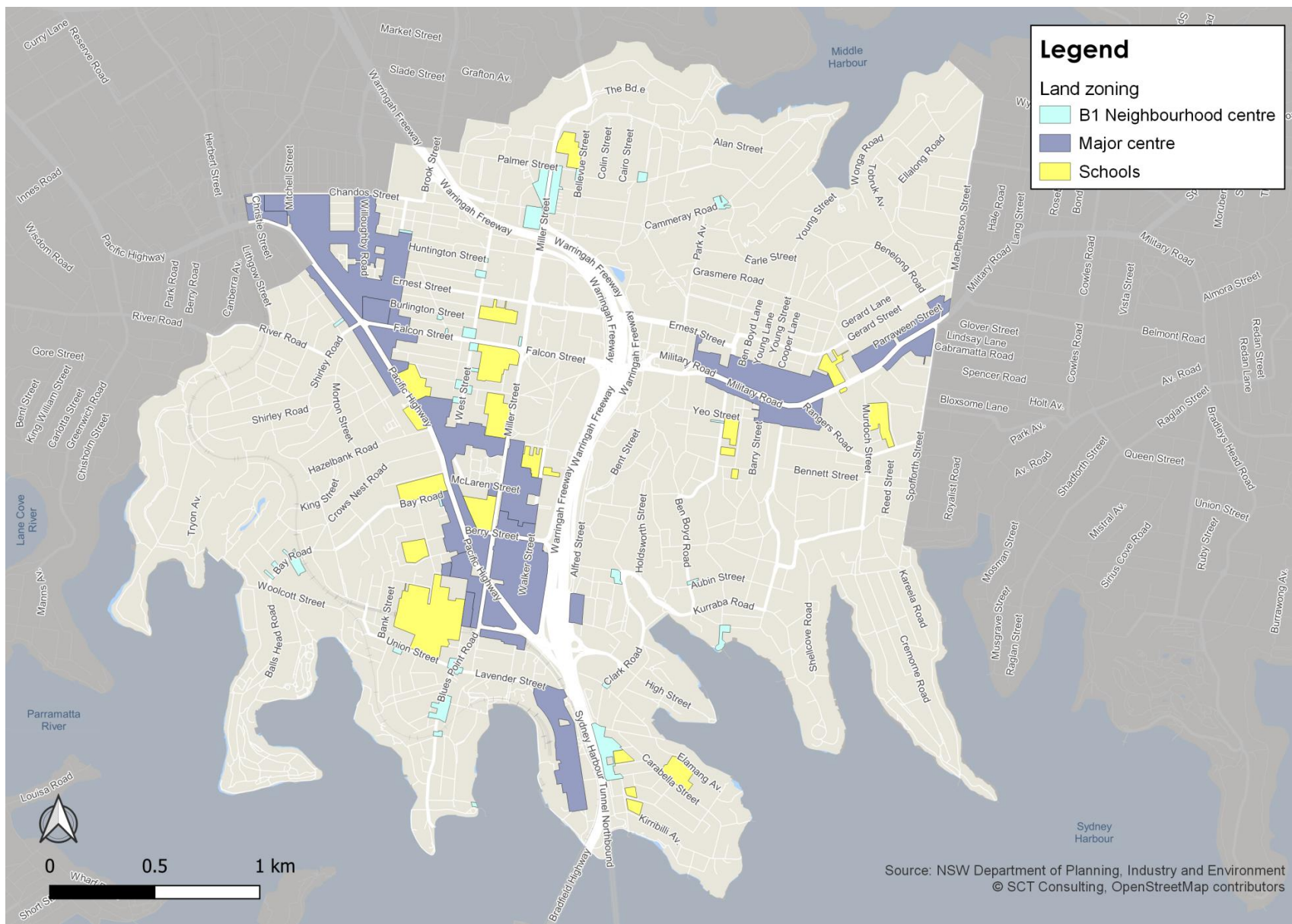
APPENDIX A

Detailed Maps

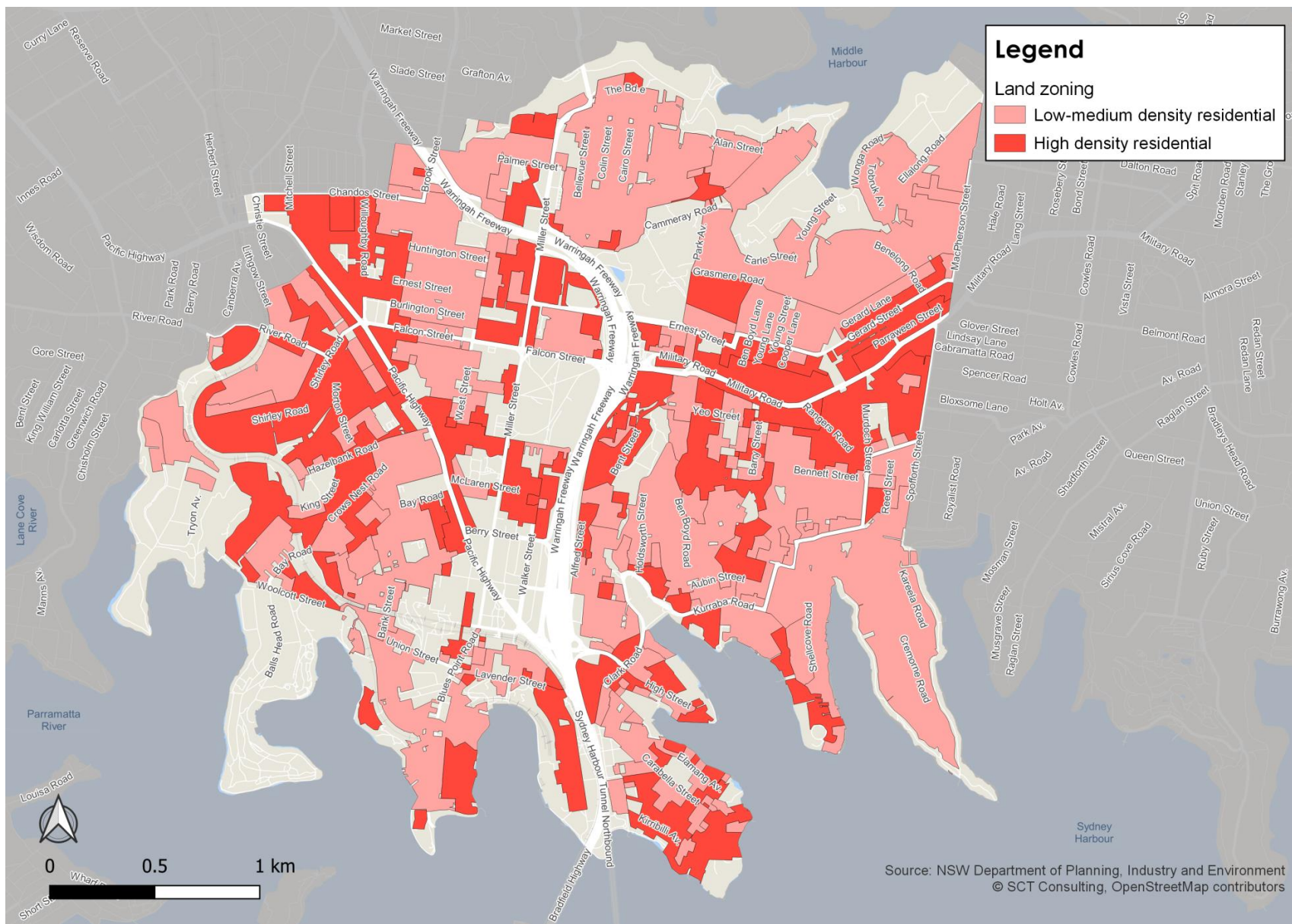
A 1 Car ownership per household, residential flats



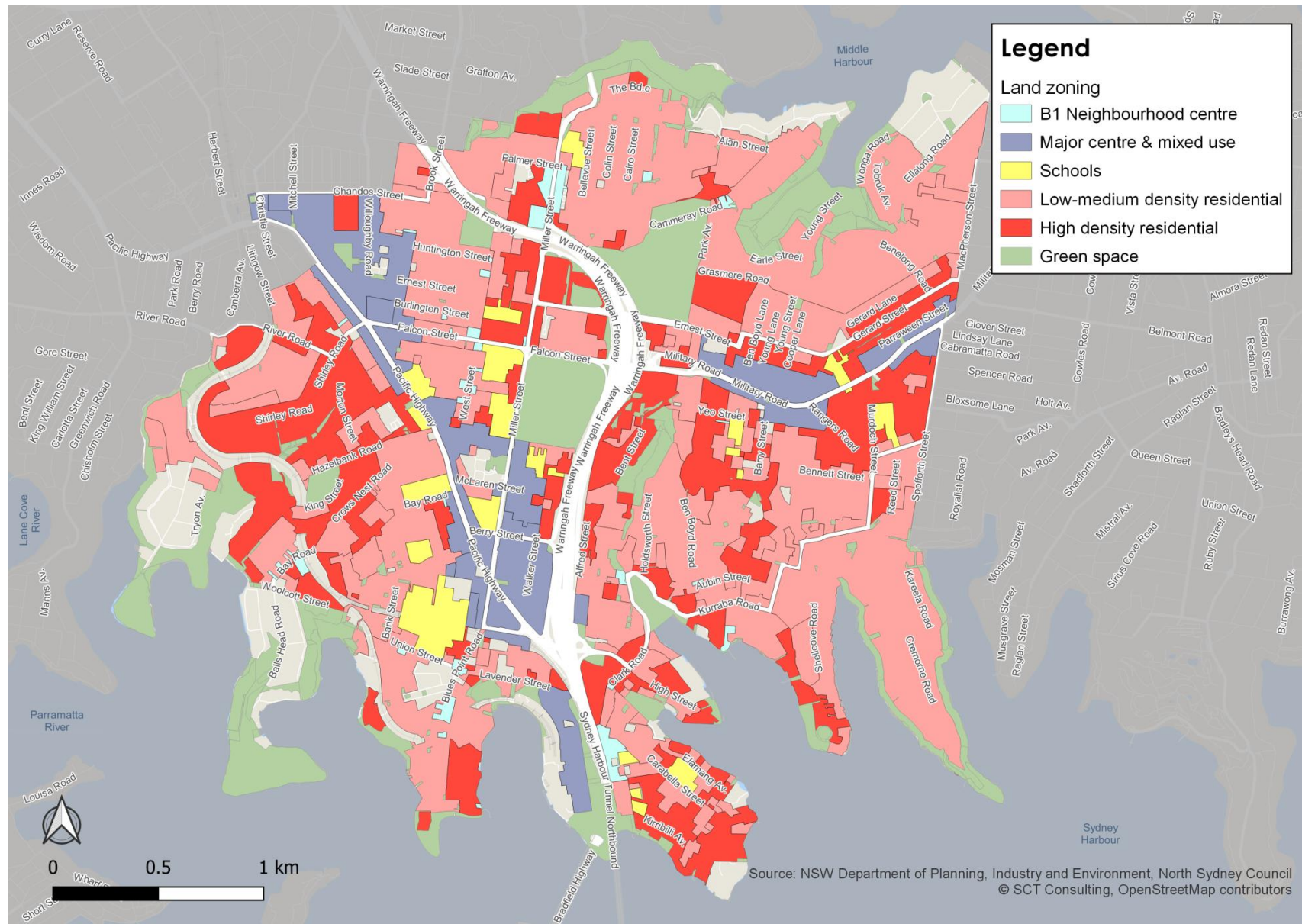
A 2 Land zoning - Commercial and schools



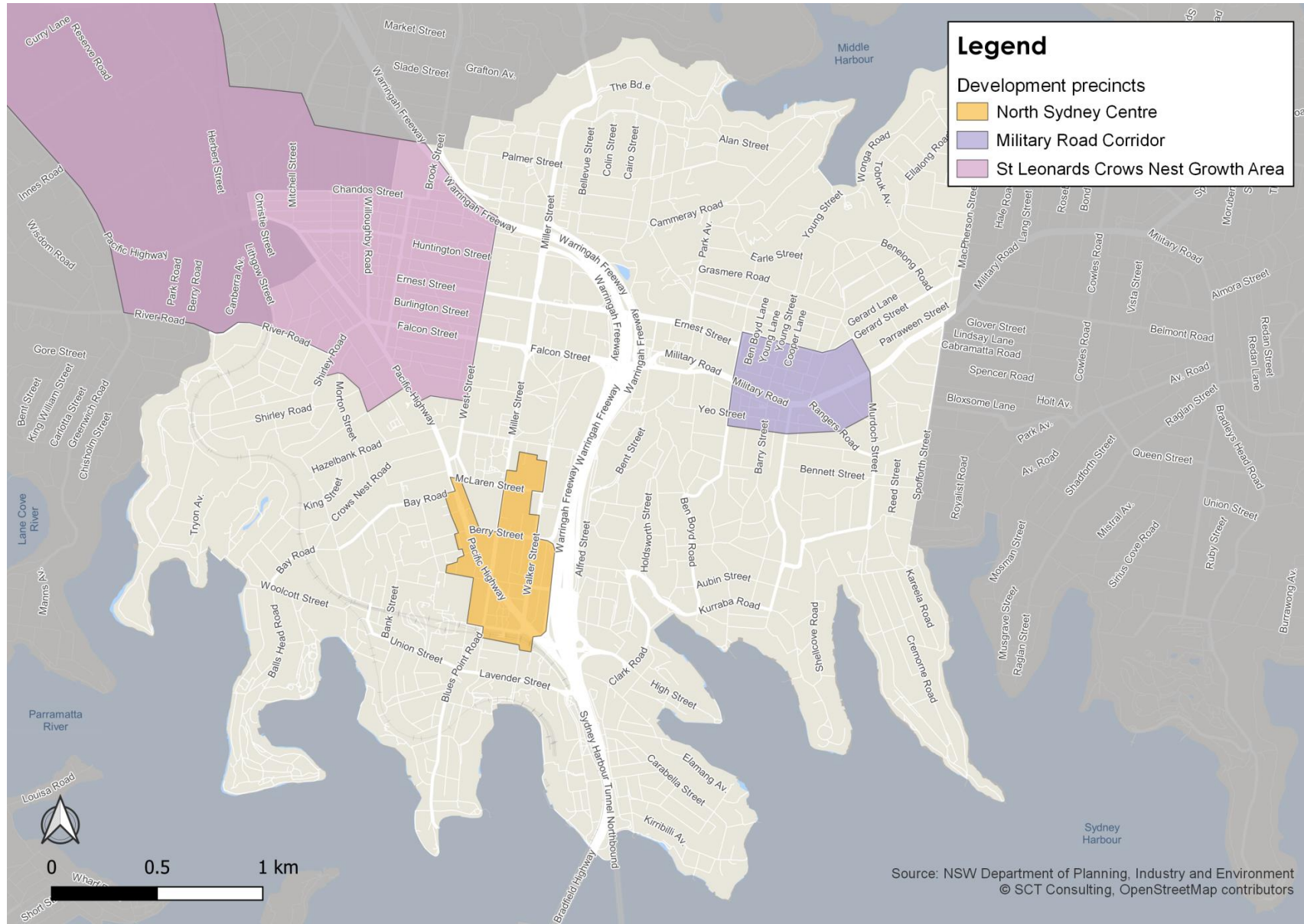
A 3 Land zoning - Residential density



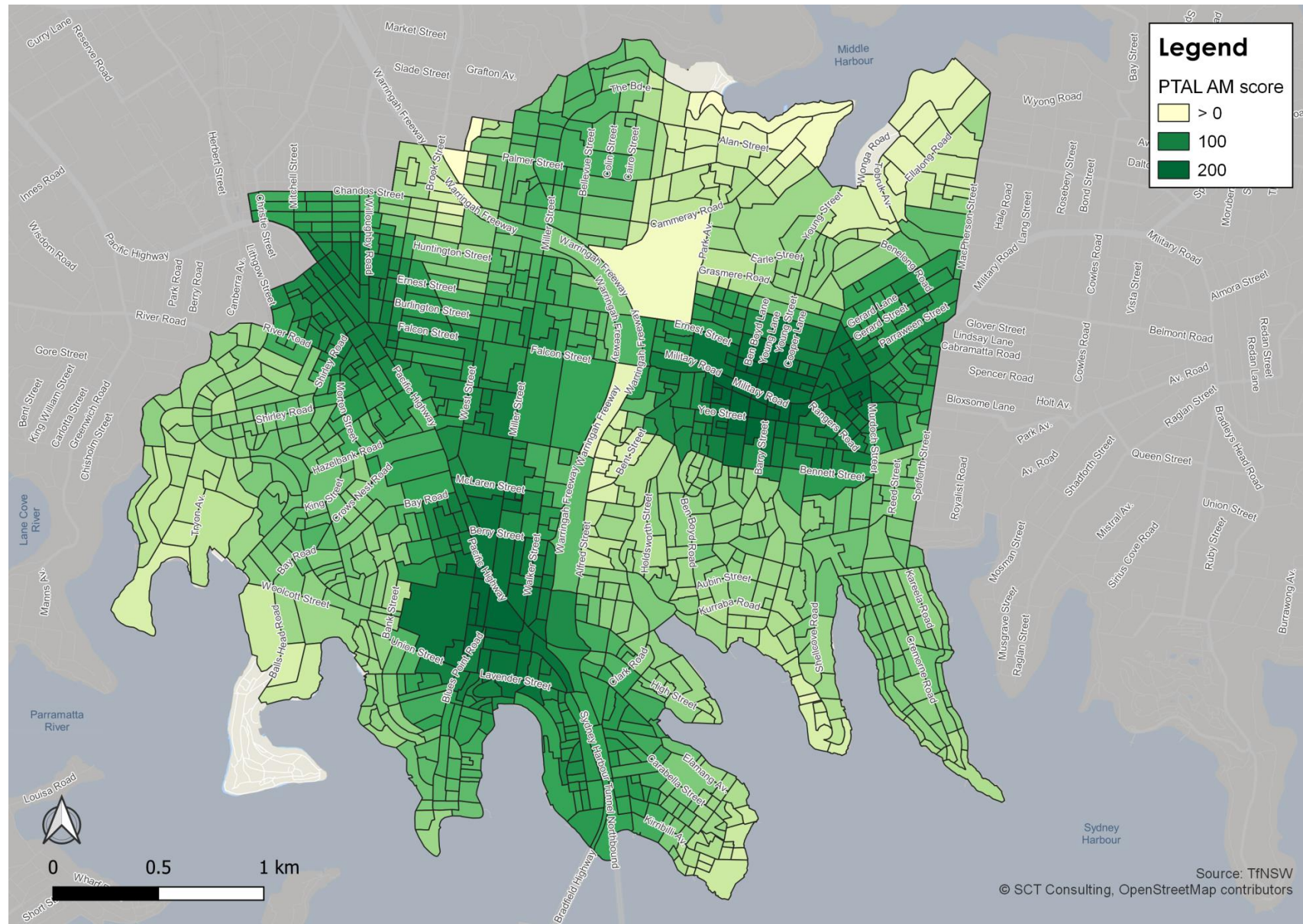
A 4 Land zoning - Combined simplified



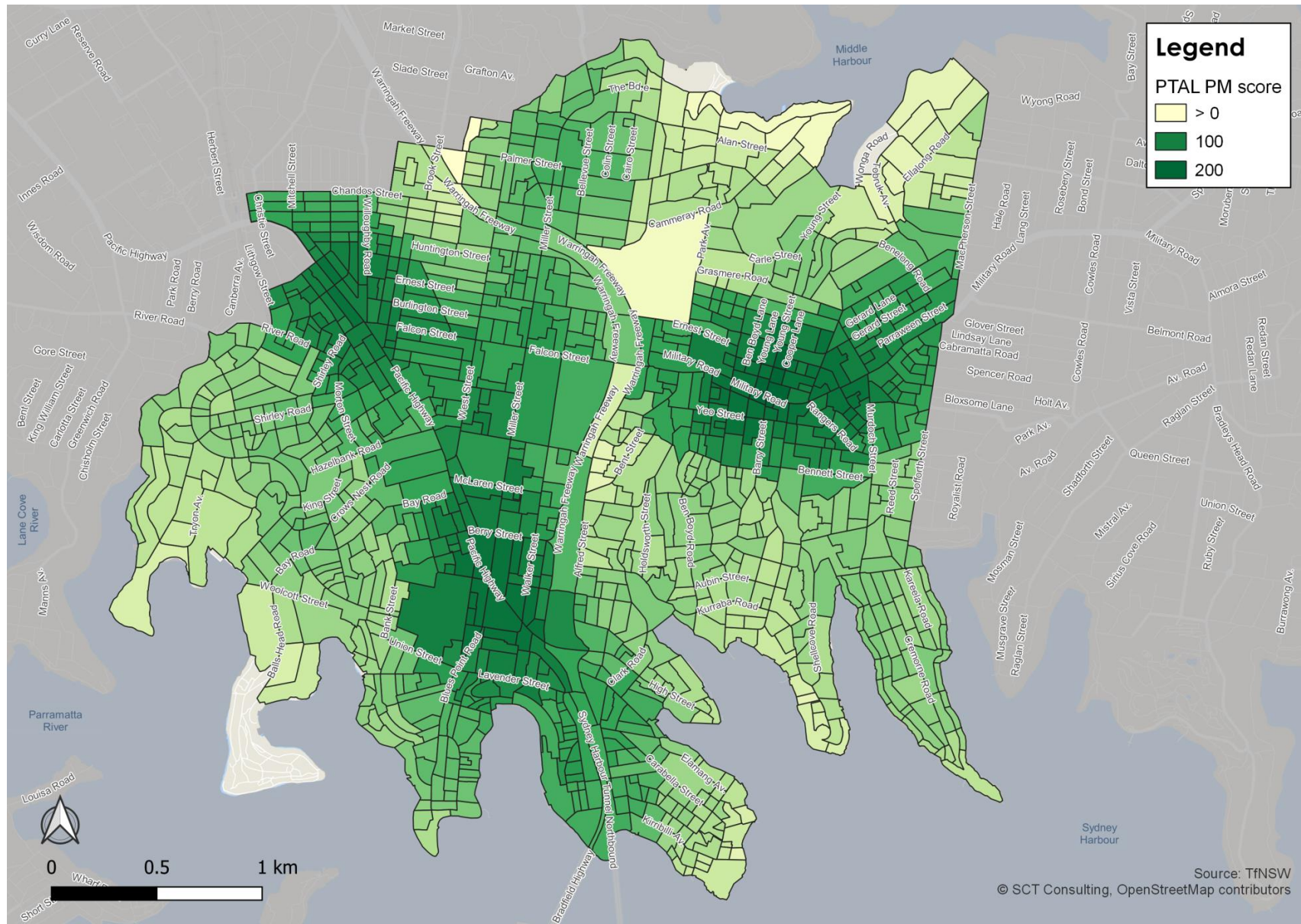
A 5 Land zoning - Future development



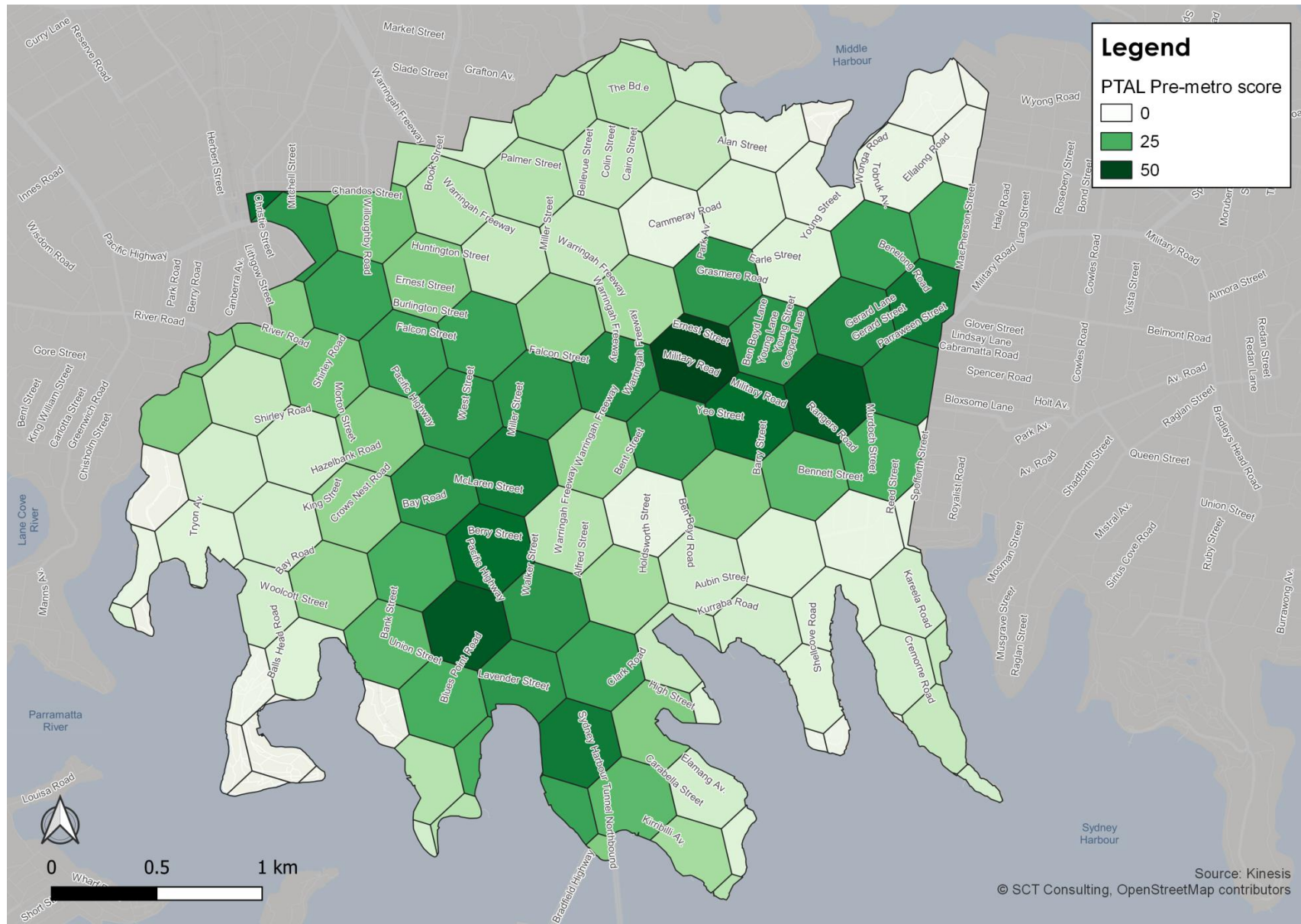
A 6 TfNSW PTAL score, PM peak



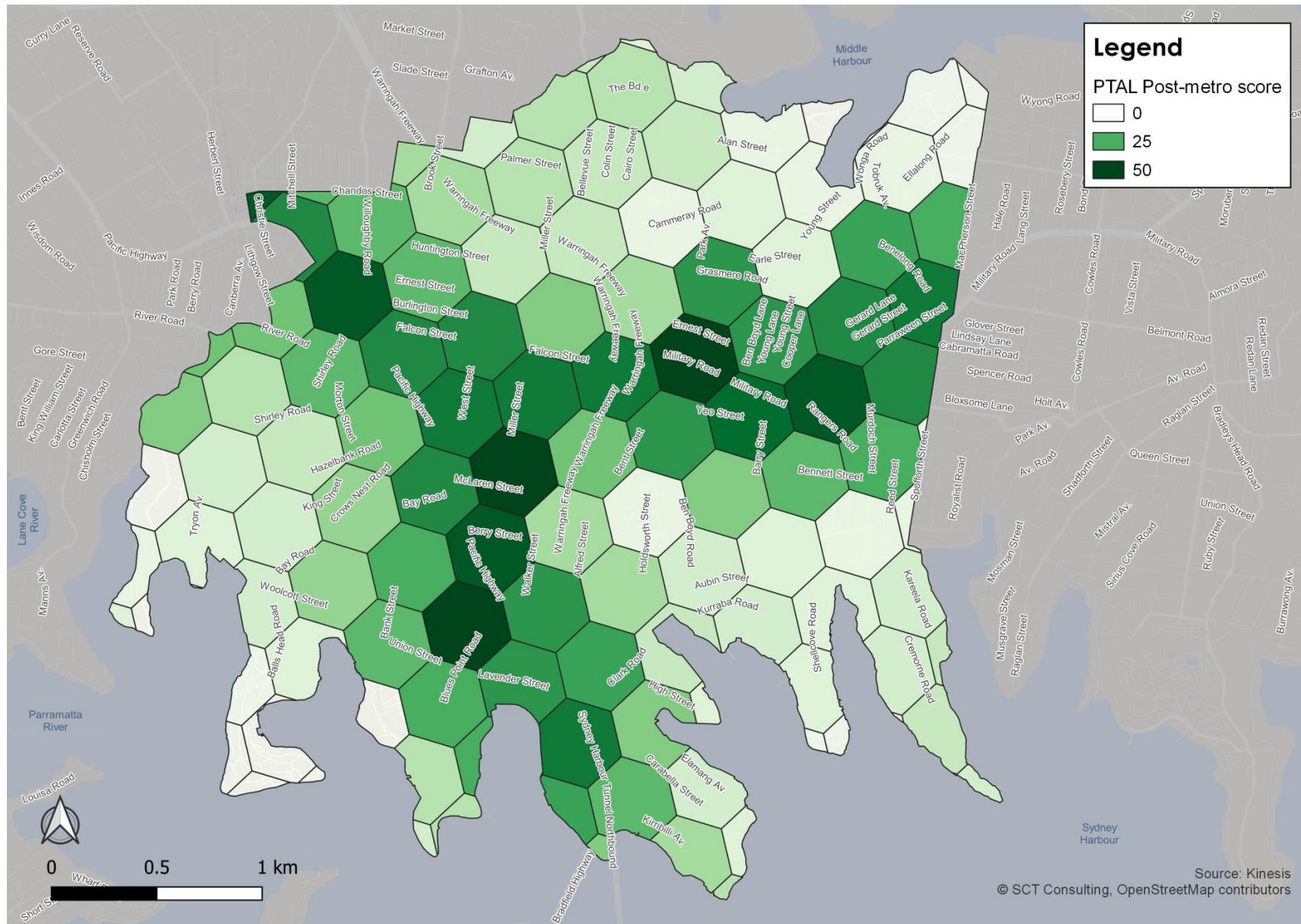
A 7 TfNSW PTAL score, PM peak



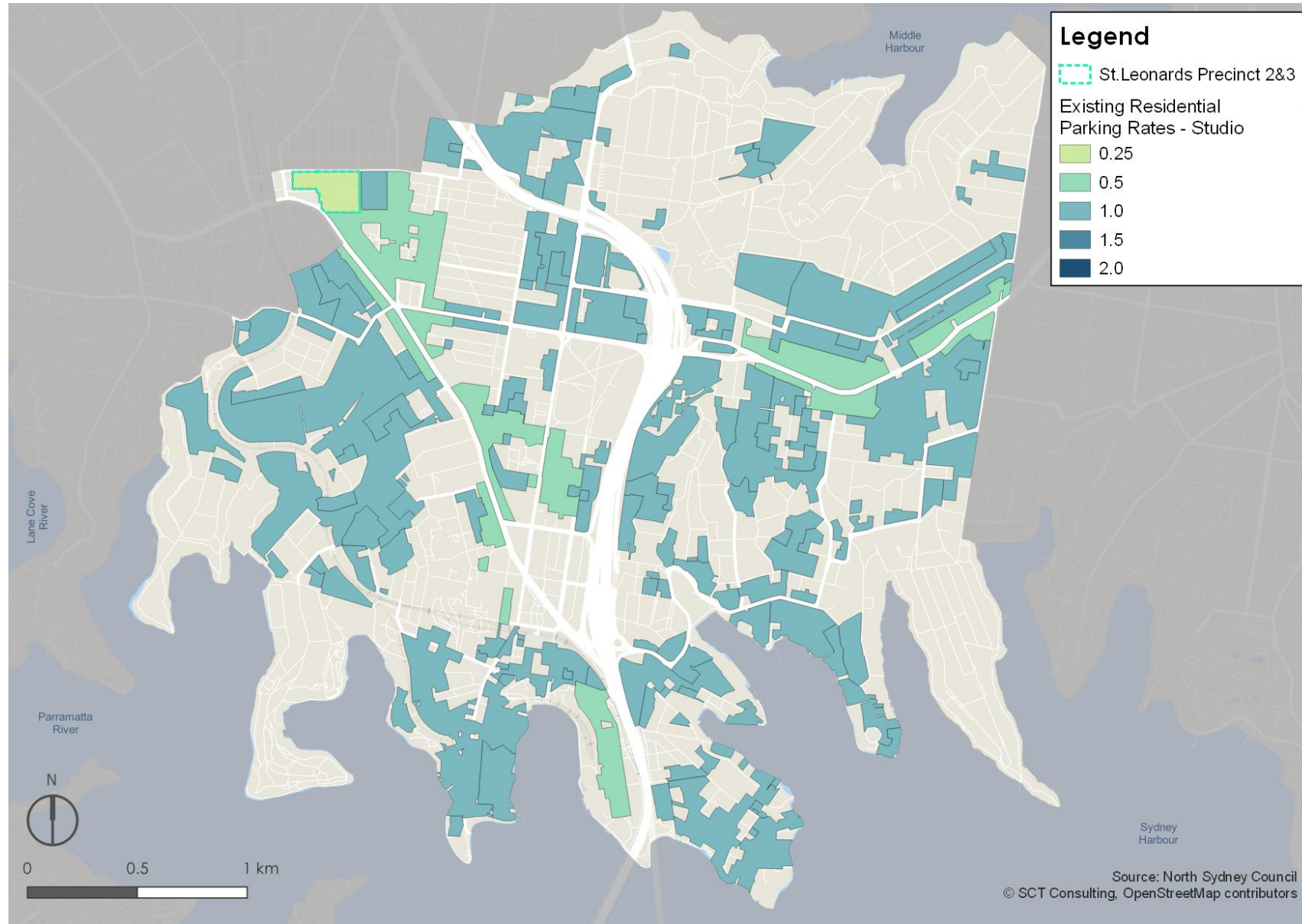
A 8 Kinesis PTAL, pre-Metro



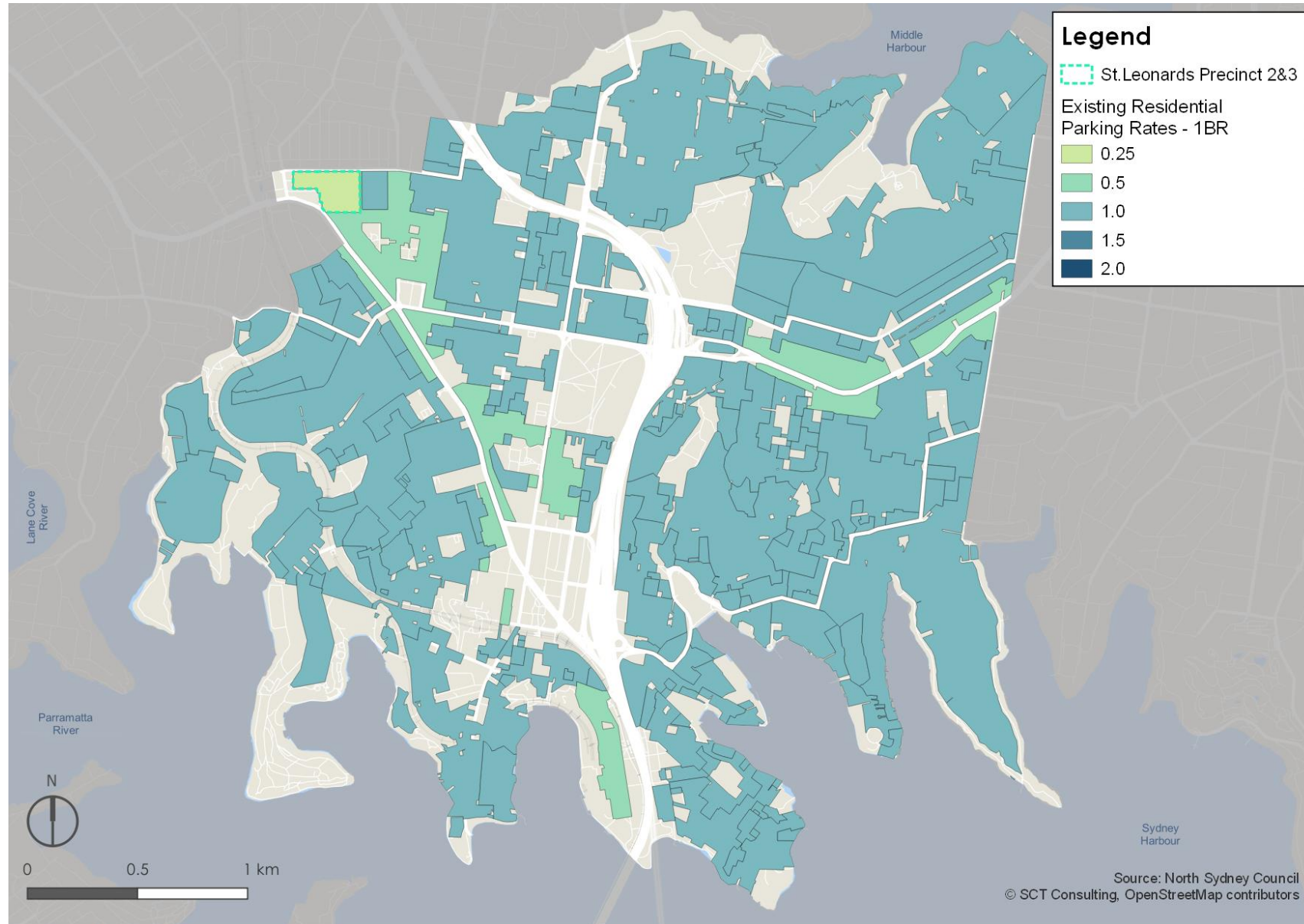
A 9 Kinesis PTAL score, post-metro



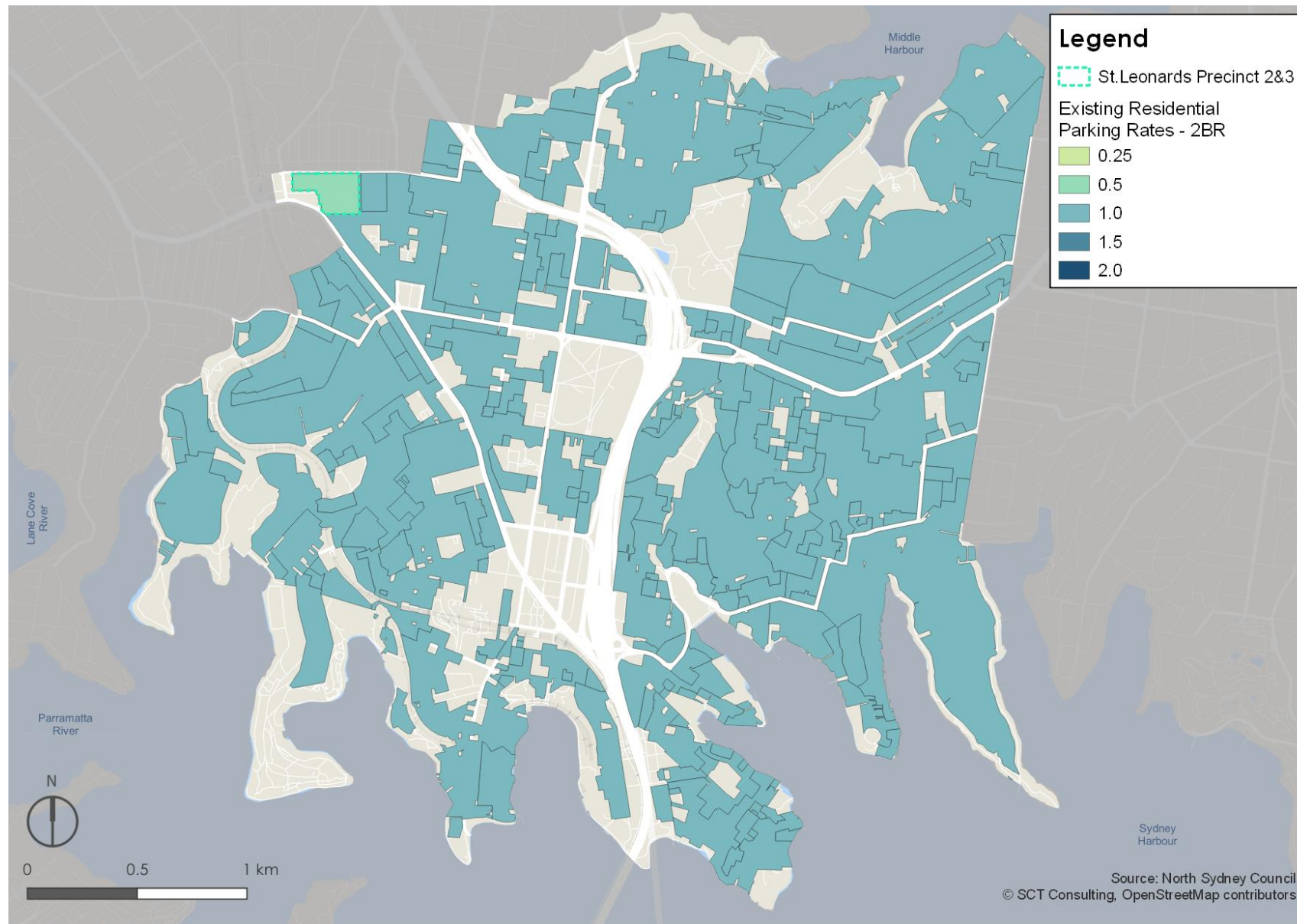
A 10 Existing Parking Rates - Studio



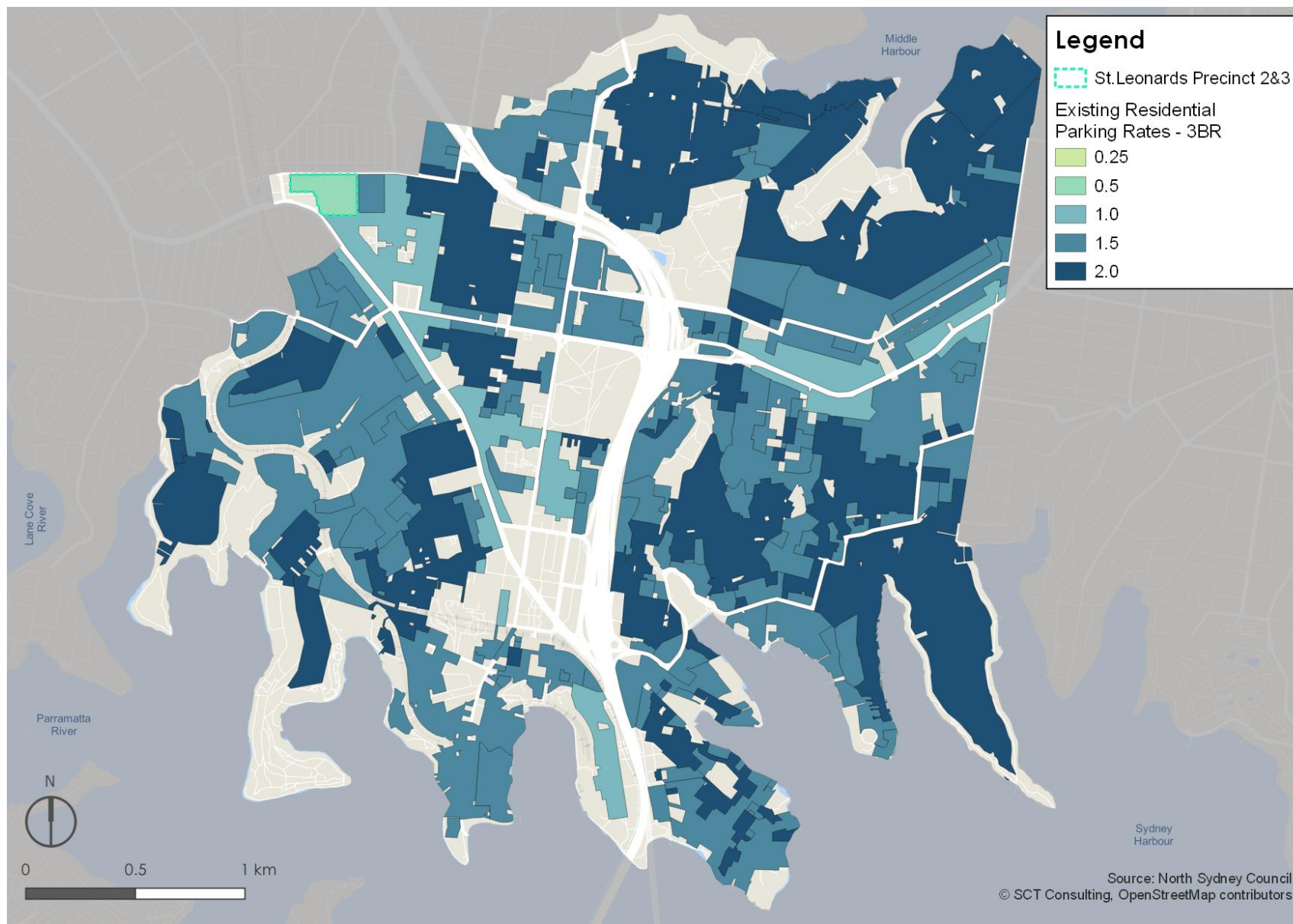
A 11 Existing Parking Rates – 1 Bedroom



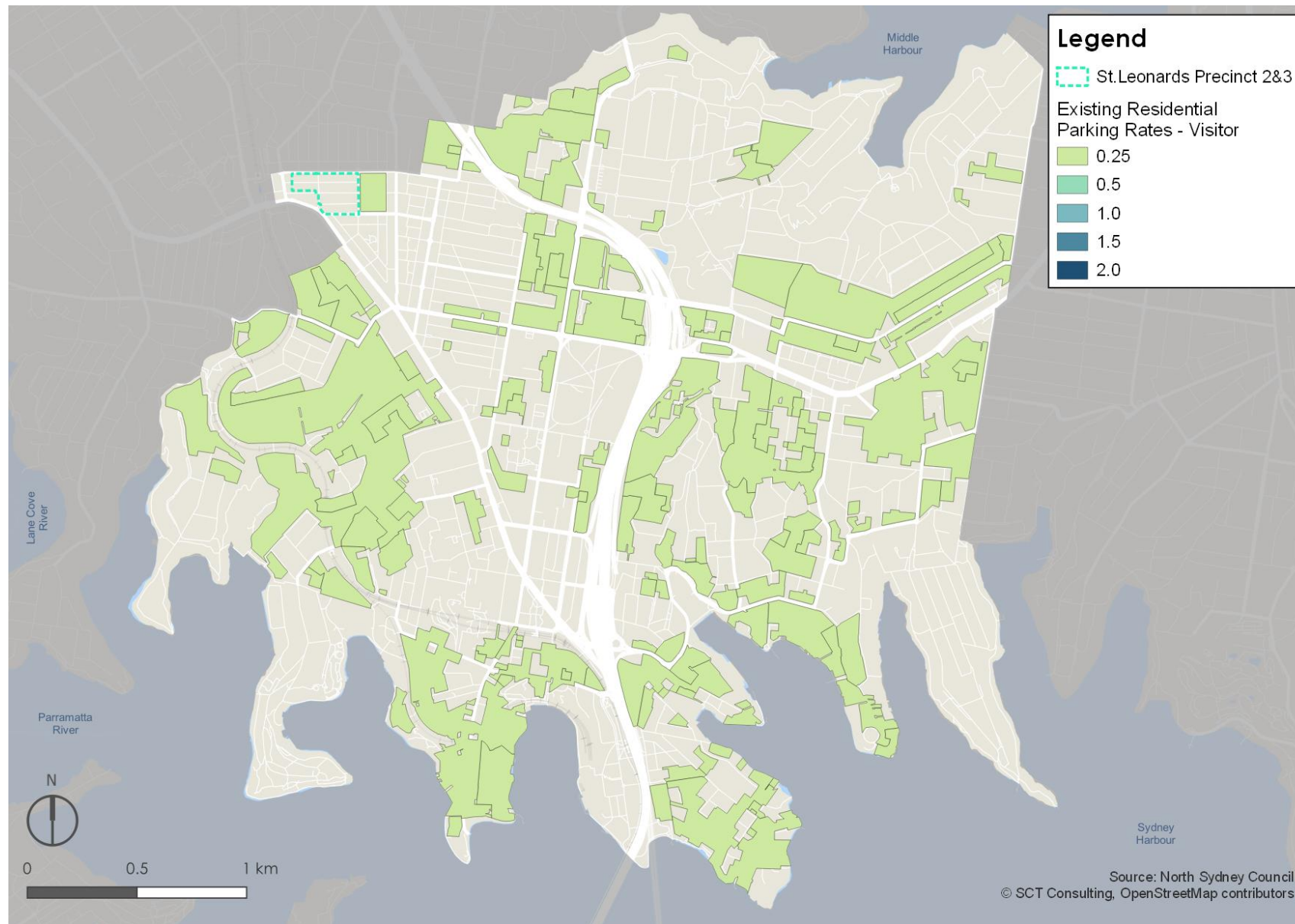
A 12 Existing Parking Rates – 2 Bedroom



A 13 Existing Parking Rates – 3 Bedroom



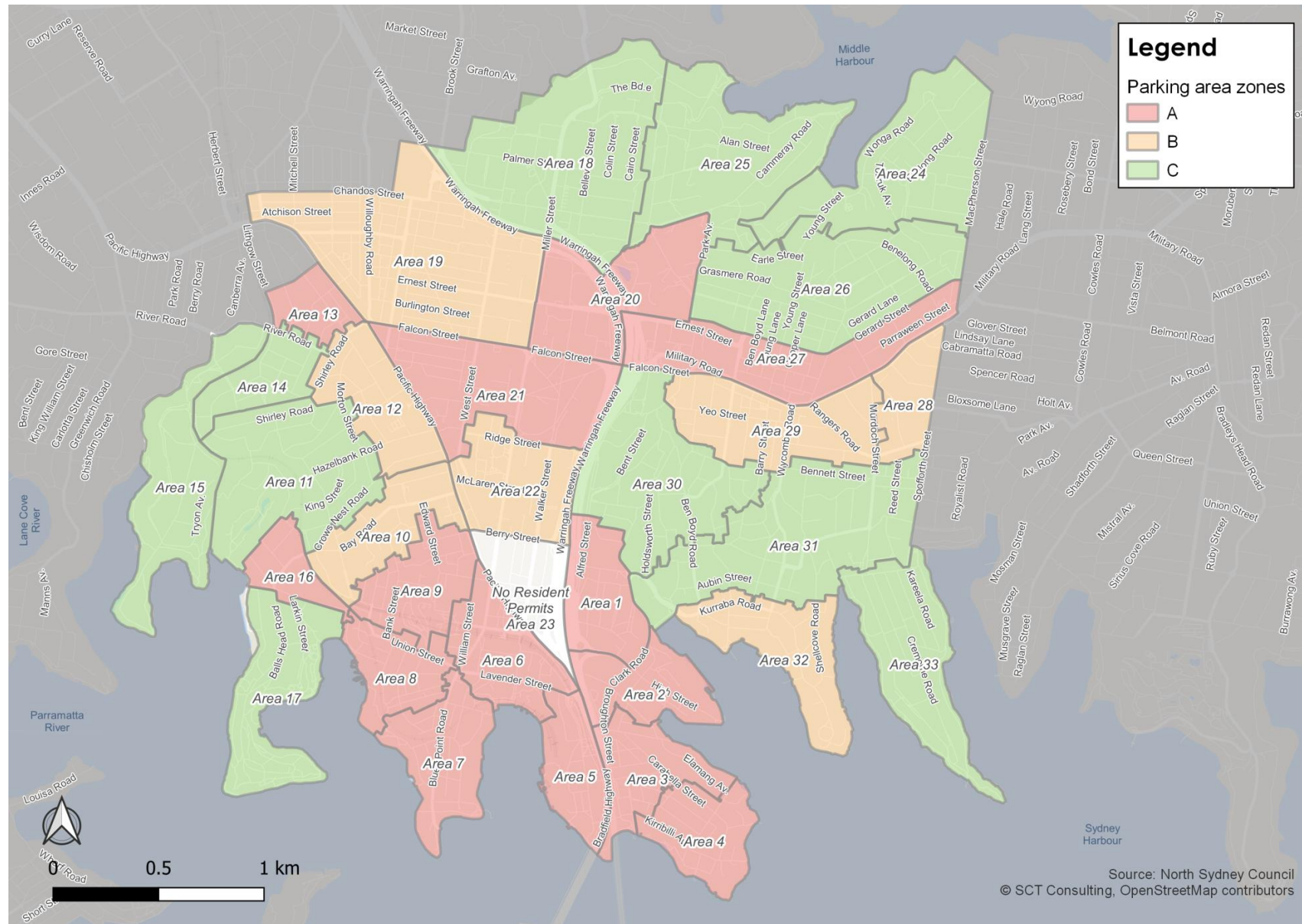
A 14 Existing Parking Rates - Visitor



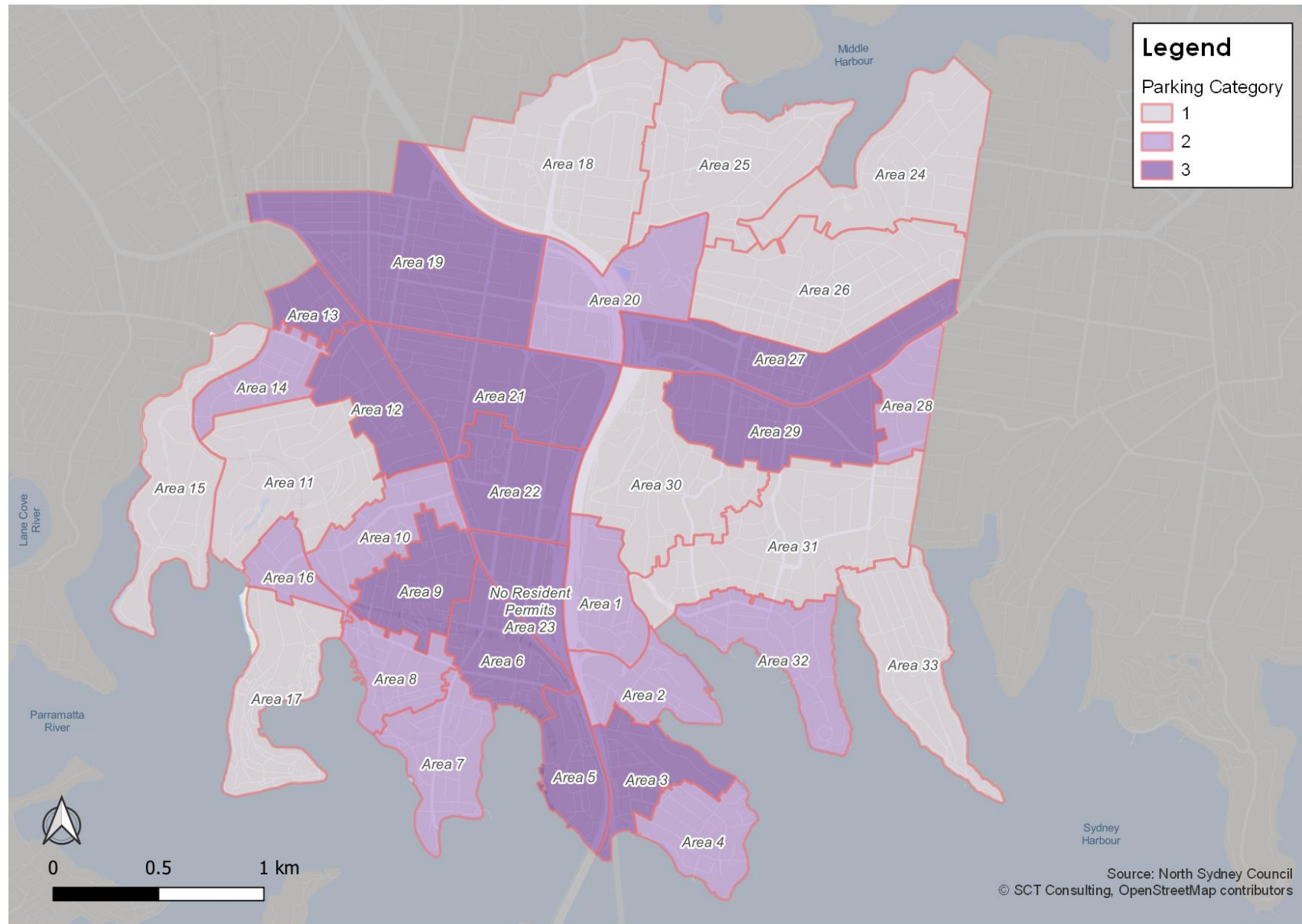
A 15 Existing parking area numbers



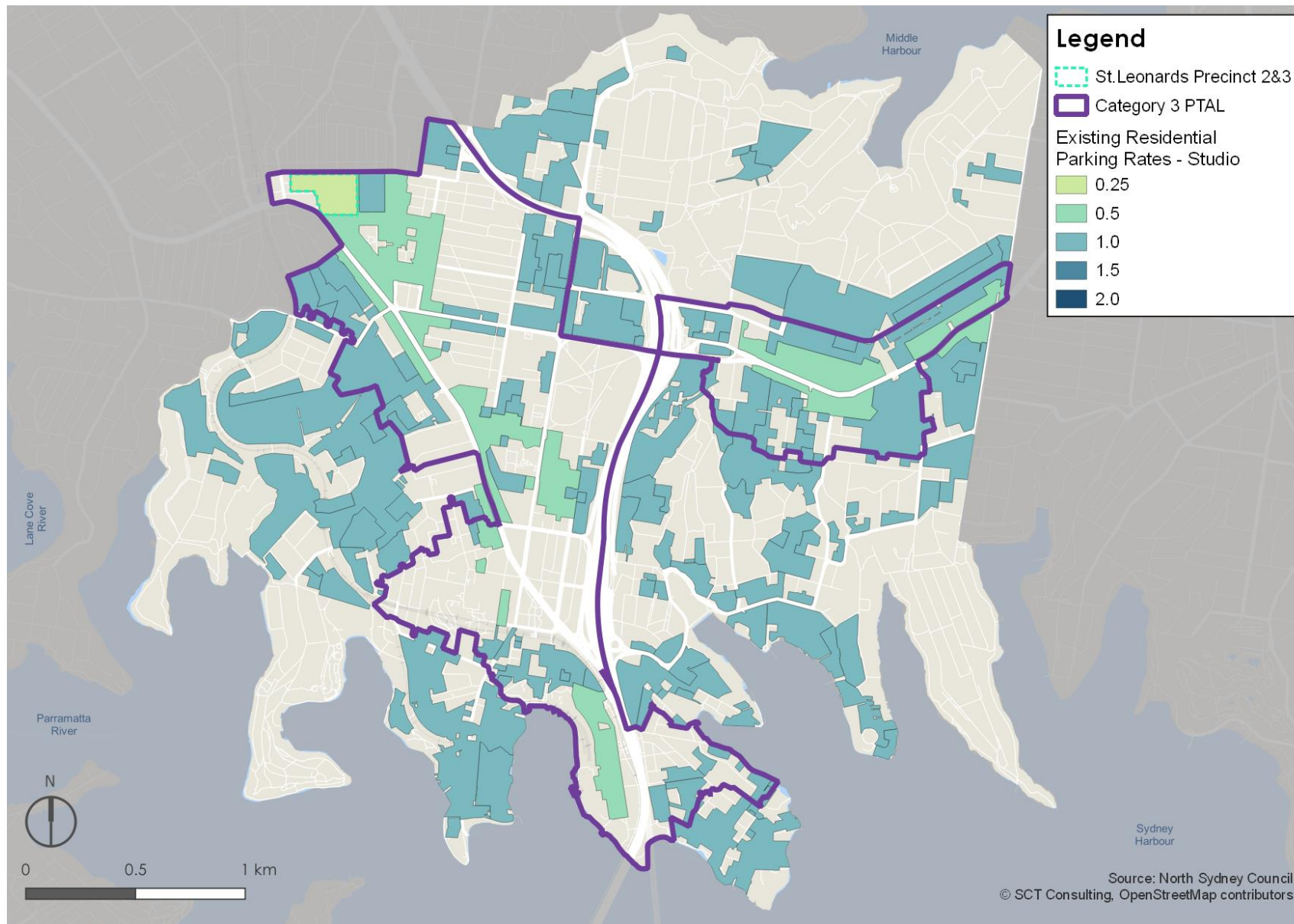
A 16 Existing parking area categories



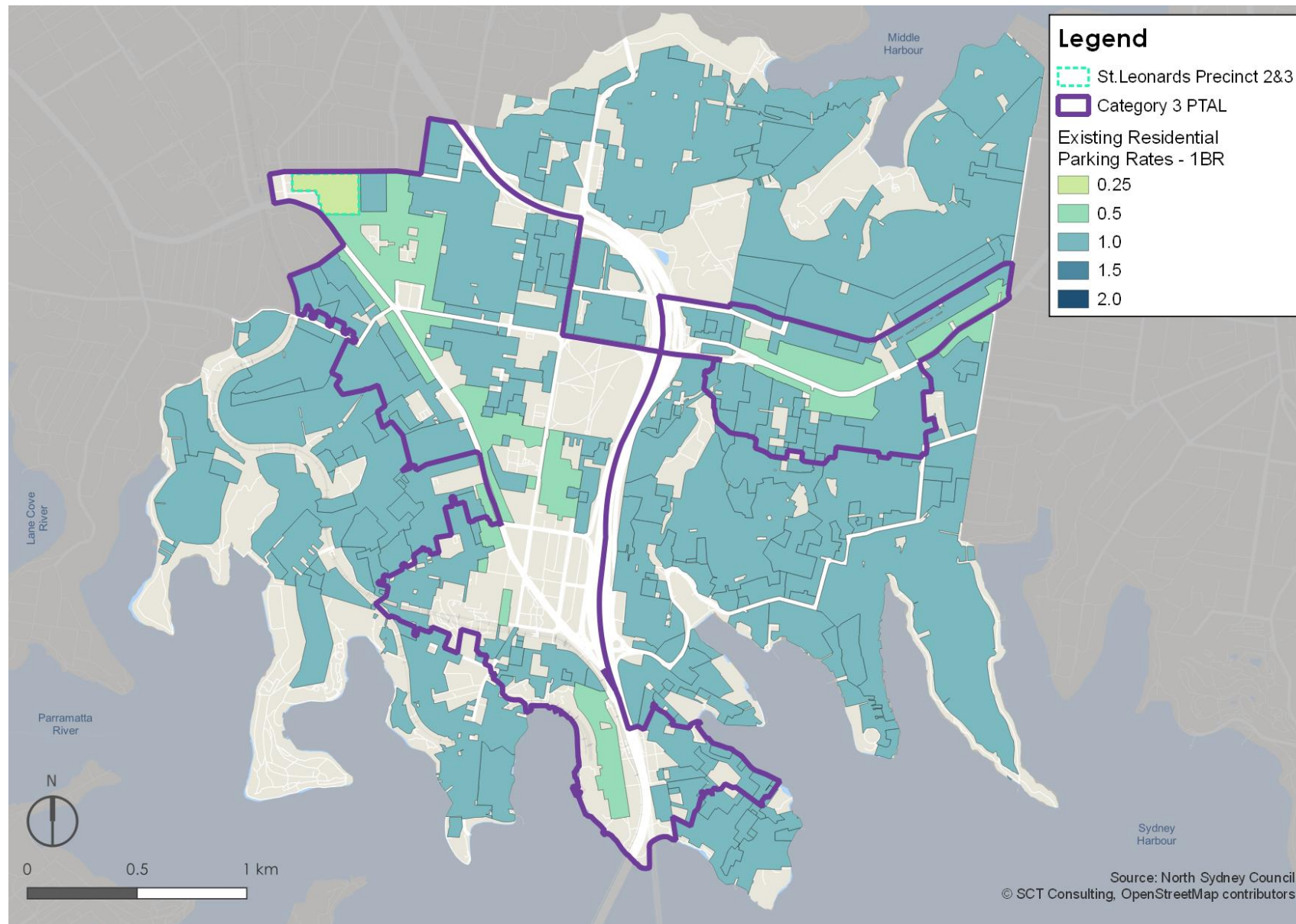
A 17 Parking areas – Recommended PTAL Parking Categories (Existing parking areas)



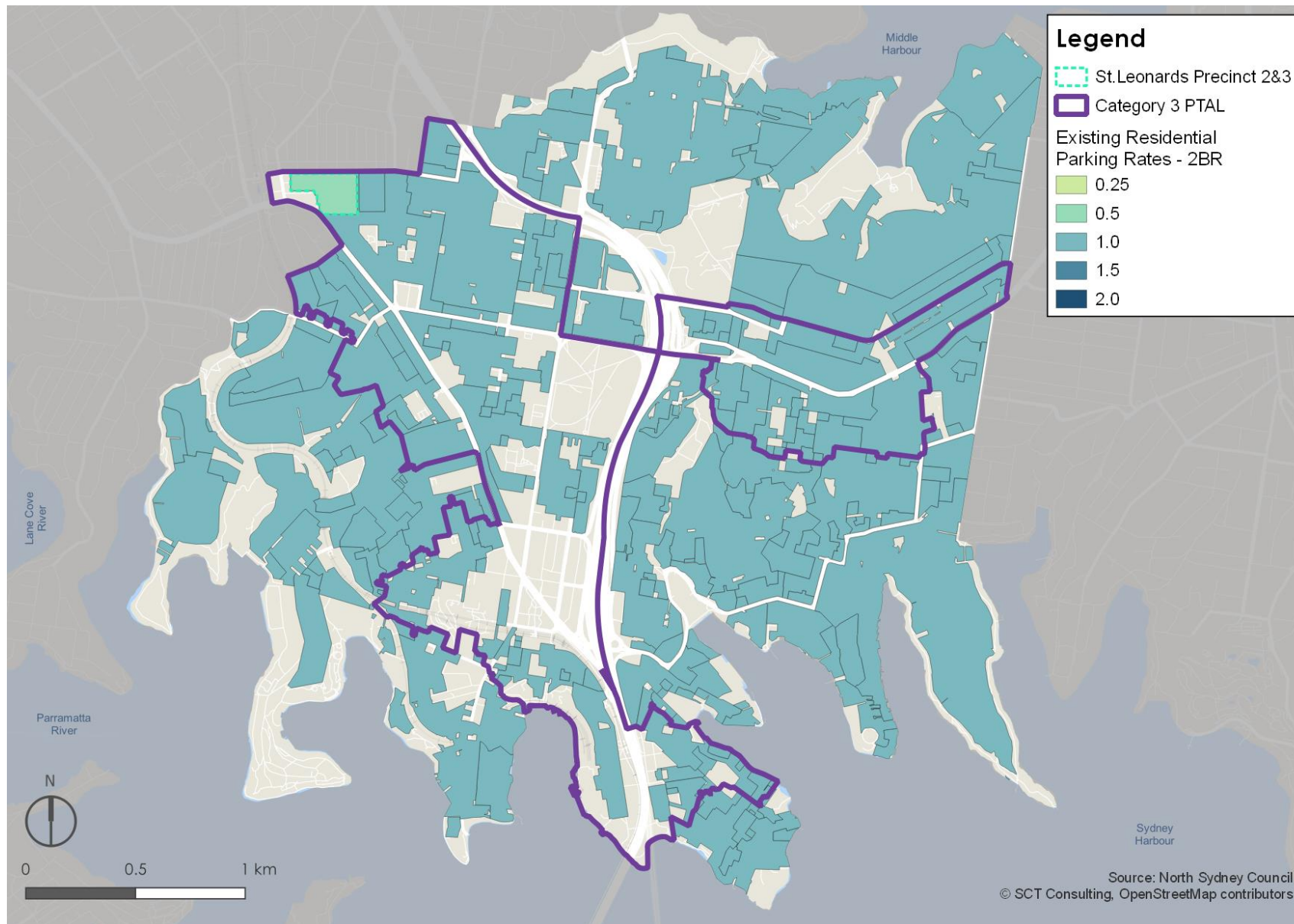
A 18 Existing parking rates – Studio – PTAL Cat 3 Parking Overlay



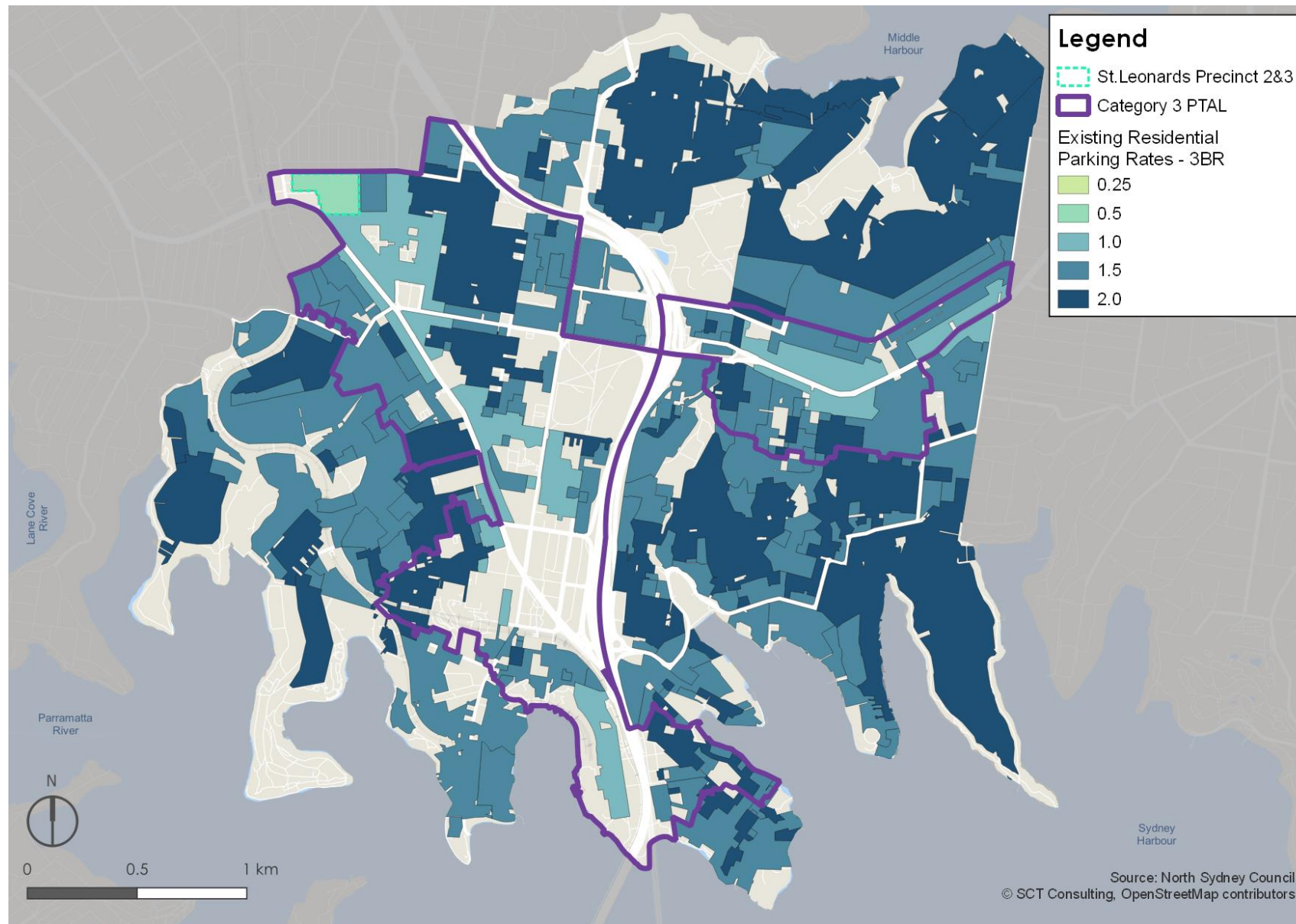
A 19 Existing parking rates – 1 Bedroom – PTAL Cat 3 Parking Overlay



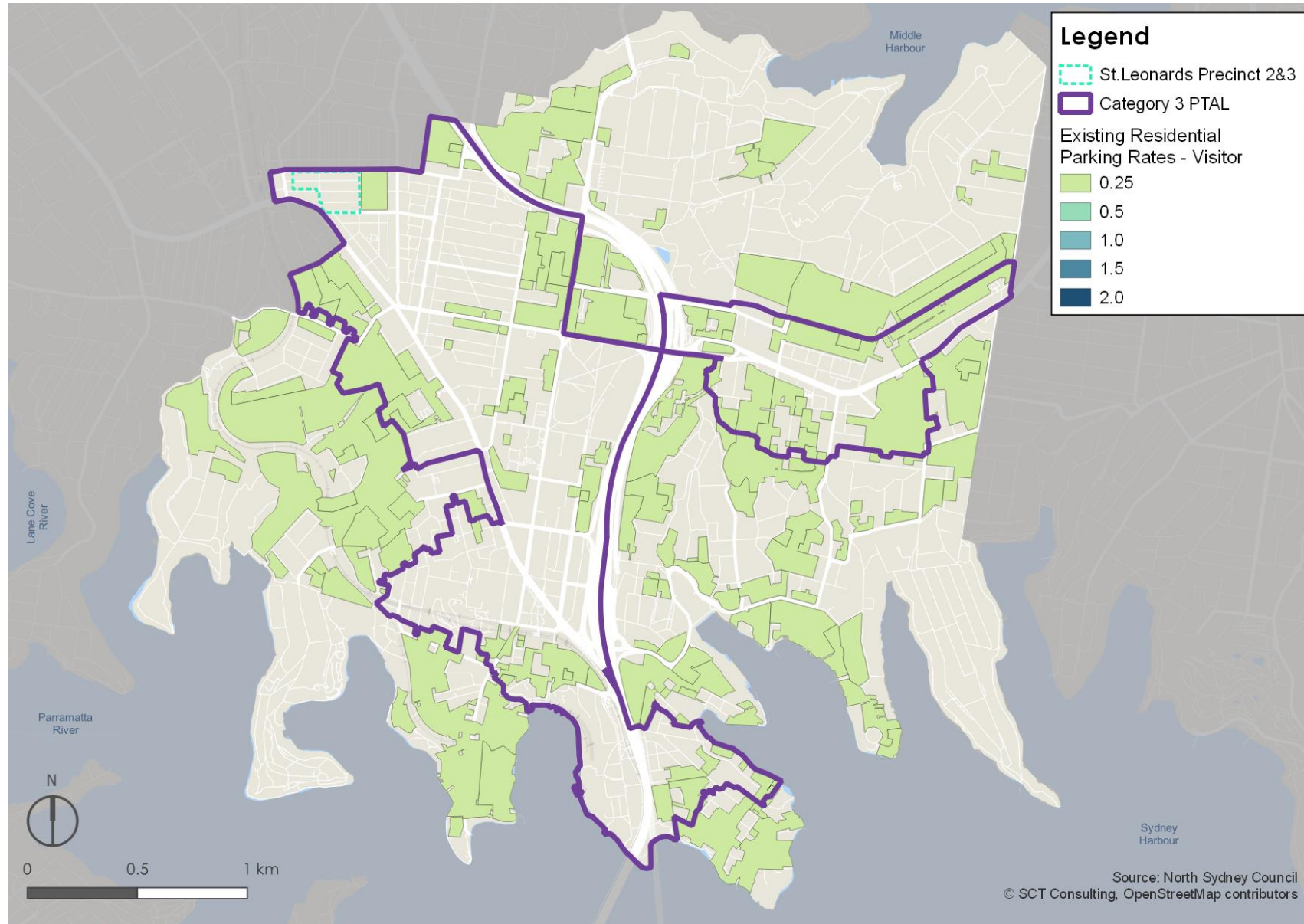
A 20 Existing parking rates – 2 Bedroom – PTAL Cat 3 Parking Overlay



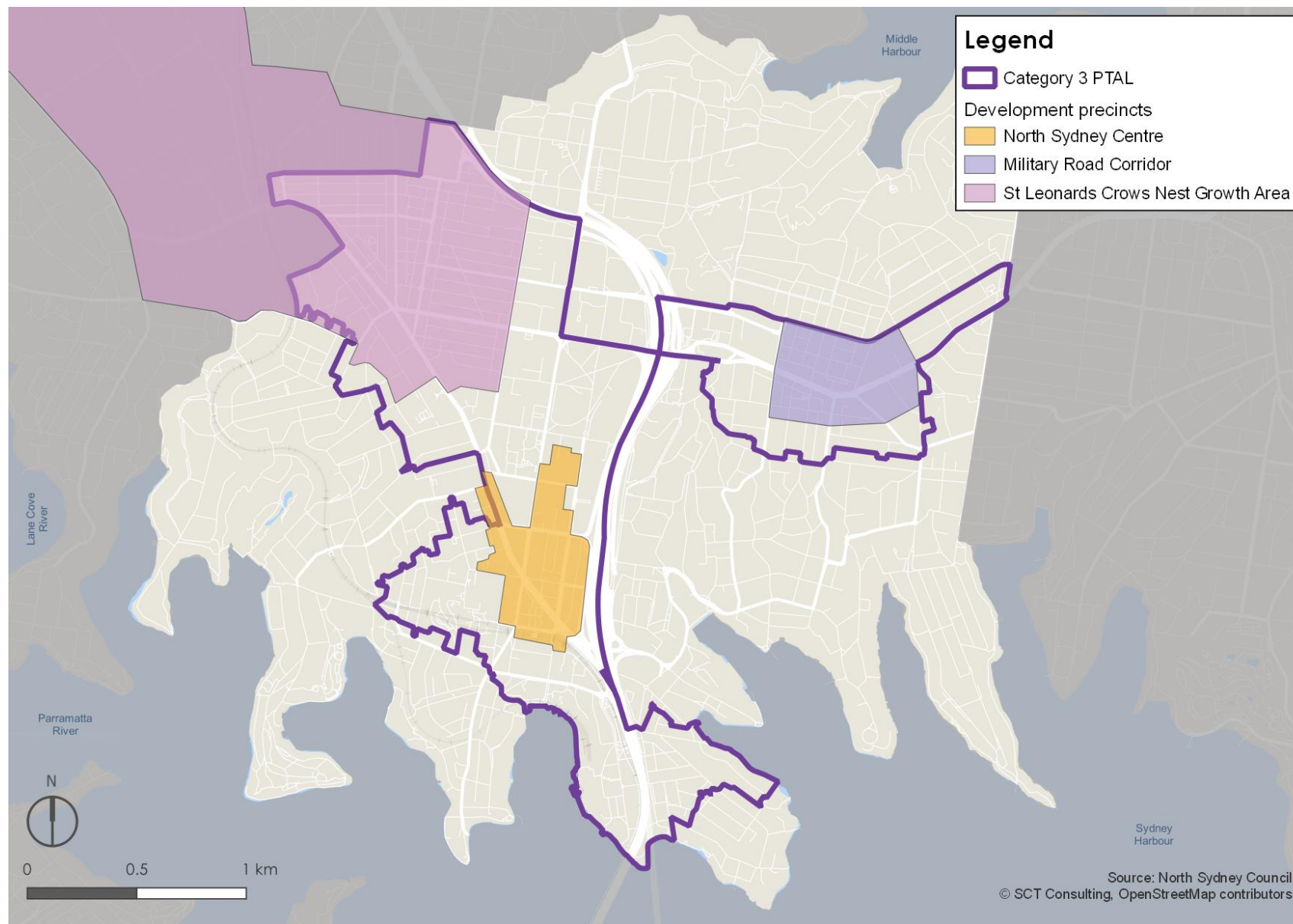
A 21 Existing parking rates – 3 Bedroom – PTAL Cat 3 Parking Overlay



A 22 Existing parking rates – Visitor – PTAL Cat 3 Parking Overlay



A 23 Development Precincts - PTAL Cat 3 Parking Overlay







SECTION 10 CAR PARKING AND TRANSPORT

10.1 INTRODUCTION

Due to its geographical location within Metropolitan Sydney, North Sydney's transport infrastructure not only accommodates the travel demands of its residents and workers, it also caters to needs of a significant level of cross regional trips. Increased parking provision directly results in increases in traffic flow and congestion, which subsequently reduces levels of service for all modes of transport.

This increase in traffic generation can also lead to loss in residential, pedestrian and cyclist amenity, safety of all transport modes and further lead to increased use of private vehicles as alternative transport modes become less attractive.

The *North Sydney Transport Strategy* seeks to manage these issues by outlining Council's transport vision and priorities for the LGA. The vision focuses on issues of safety, transport security, social well being, active health, fair access to parking, environmental sustainability, local environments, transport affordability, congestion and business activity.

In particular, it seeks to prioritise the efficient movement of people and goods by walking, cycling, and public transport with lower levels of priority given to private vehicular transport.

10.1.1 General objectives

The objectives of this Section of the DCP are to ensure that:

- O1 the objectives, strategies, planning priorities and actions of the [Greater Sydney Region Plan – A Metropolis of Three Cities](#) and the *North District Plan* are implemented;
- O2 the objectives, strategies, planning priorities and actions of the *North Sydney Local Strategic Planning Statement* are implemented;
- O3 the vision and priorities of the *North Sydney Transport Strategy* are achieved;
- O4 existing levels of traffic generation are contained and reduced;
- O5 public transport, including walking and cycling, is the main form of travel mode;
- O6 parking is adequate and managed in a way that maintains pedestrian safety and the quality of the public domain whilst minimising traffic generation;
- O7 parking is limited to minimise impacts on surrounding areas;
- O8 parking is accessible to all user groups;
- O9 minimal impacts occur on the provision of on-street parking;
- O10 ensure consideration is given to the provision of bicycle parking and facilities; and
- O11 a development's transport demand is effectively managed through its lifetime.

10.1.2 When does this section of the DCP apply?

This Section of the DCP applies to all development applications.

10.1.3 Relationships to other sections

Where relevant, this section of the DCP should be read in conjunction the following Sections of the DCP:

- (a) Part A: Section 3 – Submitting an Application;
- (b) Part B: Section 1 – Residential Development;
- (c) Part B: Section 2 – Commercial and Mixed Use Development; and
- (d) Part B: Section 3 – Non-residential development in residential zones;



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- (e) Part B: Section 5 – Child Care Facilities;
- (f) Part B: Section 4 – Boarding houses; and
- (g) Part B: Section 6 – Sex services and restricted premises.

10.1.4 Relationship to other documents

Where relevant, this section of the DCP should be read in conjunction with the following planning policies and documents:

- (a) *North Sydney Local Strategic Planning Statement*;
- (b) *North Sydney Transport Strategy*;
- (c) ~~[SEPP \(Infrastructure\) 2007](#)~~ [SEPP \(Transport and Infrastructure\) 2021](#);
The Infrastructure SEPP lists the types of developments which are required to obtain the RMS's concurrence prior to the issuing of development consent
- (d) The Road and Maritime Service's [Guide For Traffic Generating Developments](#);
- (e) *Planning Guidelines for Walking and Cycling* (2004) prepared by NSW Department of Infrastructure, Planning and Natural Resources and the NSW Roads and Traffic Authority.
- (f) ***Performance Guide***
The Guide will direct you to the references, which have been adopted by Council for designing traffic facilities associated with the development of private property.
- (g) *North Sydney Council Resident Parking Permit Policy*.

10.2 PARKING PROVISION

10.2.1 Quantity Requirements

Objectives

- O1 To facilitate an increase in the use of public and alternative transport modes including walking and cycling.
- O2 To minimise the reliance on private car usage.
- O3 To ensure that an appropriate level of on-site car parking is provided to cater for the users of the development, with regard to a site's proximity and access to other sustainable transport modes.

Provisions

Residential Development

- P1 Provide on-site car parking, not exceeding the maximum rates stated in Table B-10.1.

B

Part

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TABLE B-10.1 – Residential Parking Rates				
Development Type	Zone	Location	Maximum Parking Rate	
<ul style="list-style-type: none"> • dual occupancies • dwelling houses • semi-detached dwellings 	All	All	1-2 bedrooms	1 space / dw*
			3 or more bedrooms	2 spaces / dw
<ul style="list-style-type: none"> • attached dwellings • multi-dwelling housing 	All	All	Studio, 1-2 bedrooms	1 space / dw
			3 or more bedrooms	1.5 spaces / dw
			Visitor	0.25 space / dw (min of 1 space)
<ul style="list-style-type: none"> • residential flat buildings • shop top housing 	B4— Mixed-Use	All— except in St Leonards Precincts 2 & 3**	Studio, 1-bedroom	0.5 space / dw
			2 or more bedrooms	1 space / dw
			Motorcycle parking	1 space / 10 car spaces
		St Leonards Precincts 2 & 3**	Studio, 1-bedroom	0.25 space / dw
			2 or more bedrooms	0.5 space / dw
			Motorcycle parking	1 space / 10 car spaces
All zones other than B4— Mixed-Use	All	All	Studio, 1-2 bedrooms	1 space / dw
			3 or more bedrooms	1.5 spaces / dw
			Visitor	0.25 space / dw (min of 1 space)
• boarding houses	All	All	1 / 12 beds	
• seniors housing	All	All	1 / 5 dw	

* dw = Dwelling

** For the purposes of applying parking rates, St Leonards Precincts 2&3 relates to all sites within the area bounded by Chandos Street, Oxley Street, Albany Street, the Pacific Highway and the northern railway line

TABLE B-10.1 – Residential Parking Rates				
Development Type	Zone	Location	Maximum Parking Rate	
<ul style="list-style-type: none"> • dual occupancies • dwelling houses • semi-detached dwellings 	All	All	1-2 bedrooms	1 space / dw*
			3 or more bedrooms	2 spaces / dw



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TABLE B-10.1 – Residential Parking Rates				
Development Type	Zone	Location	Maximum Parking Rate	
<ul style="list-style-type: none"> • <u>attached dwellings</u> • <u>multi-dwelling housing</u> 	All	All	Studio, 1-2 bedrooms	<u>1 space / dw</u>
			3 or more bedrooms	<u>1.5 spaces / dw</u>
			Visitor	<u>0.25 space / dw (min of 1 space)</u>
<ul style="list-style-type: none"> • <u>residential flat buildings</u> • <u>shop top housing</u> 	B3 Commercial Core	High Accessibility Area**	Studio	<u>0.3 space / dw</u>
			1 bedroom	<u>0.4 space / dw</u>
			2 bedroom	<u>0.6 space / dw</u>
			3 + bedrooms	<u>0.7 space / dw</u>
	B4 Mixed Use	All locations other than High Accessibility Area**	Motorcycle parking	<u>1 space / 10 car spaces</u>
			Studio, 1 bedroom	<u>0.5 space / dw</u>
			2 + bedrooms	<u>1 space / dw</u>
			Motorcycle parking	<u>1 space / 10 car spaces</u>
	All zones other than: B3 Commercial Core B4 Mixed Use	High Accessibility Area**	Studio	<u>0.3 space / dw</u>
			1 bedroom	<u>0.4 space / dw</u>
			2 bedroom	<u>0.6 space / dw</u>
			3 + bedrooms	<u>0.7 space / dw</u>
All locations other than High Accessibility Area**	High Accessibility Area**	Motorcycle parking	<u>1 space / 10 car spaces</u>	
		Studio, 1-2 bedrooms	<u>1 space / dw</u>	
		3 + bedrooms	<u>1.5 spaces / dw</u>	
Visitor	High Accessibility Area**	Visitor	<u>0.25 space / dw (min of 1 space)</u>	
		Visitor	<u>0.25 space / dw (min of 1 space)</u>	
• <u>boarding houses</u>	All	All	<u>1 / 12 beds</u>	
• <u>seniors housing</u>	All	All	<u>1 / 5 dw</u>	

* dw = Dwelling

** The extent of the High Accessibility Area is identified in Figures B-10.1 to B-10.3.

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Car Parking and Transport

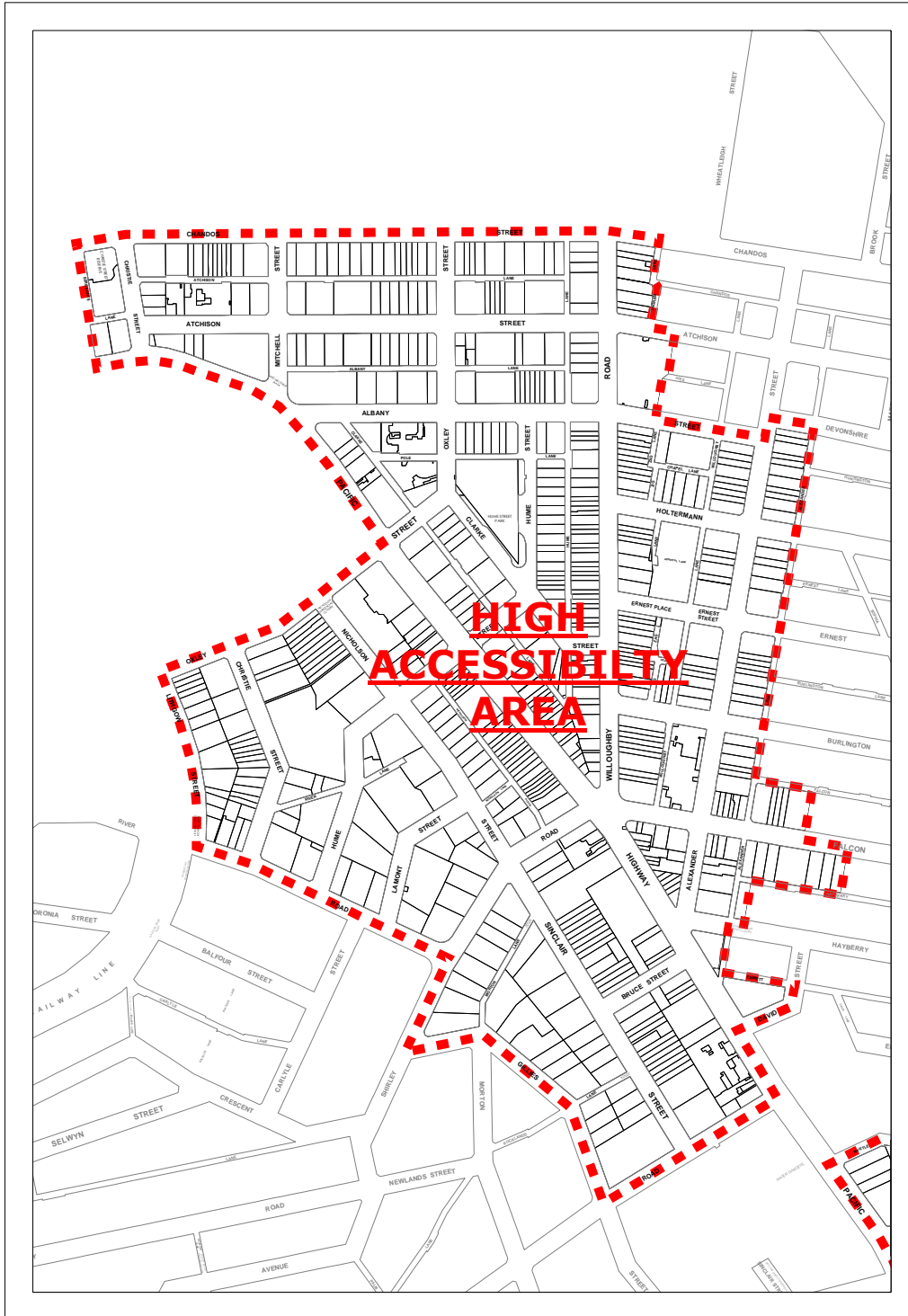


Figure B-10.1



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Car Parking and Transport

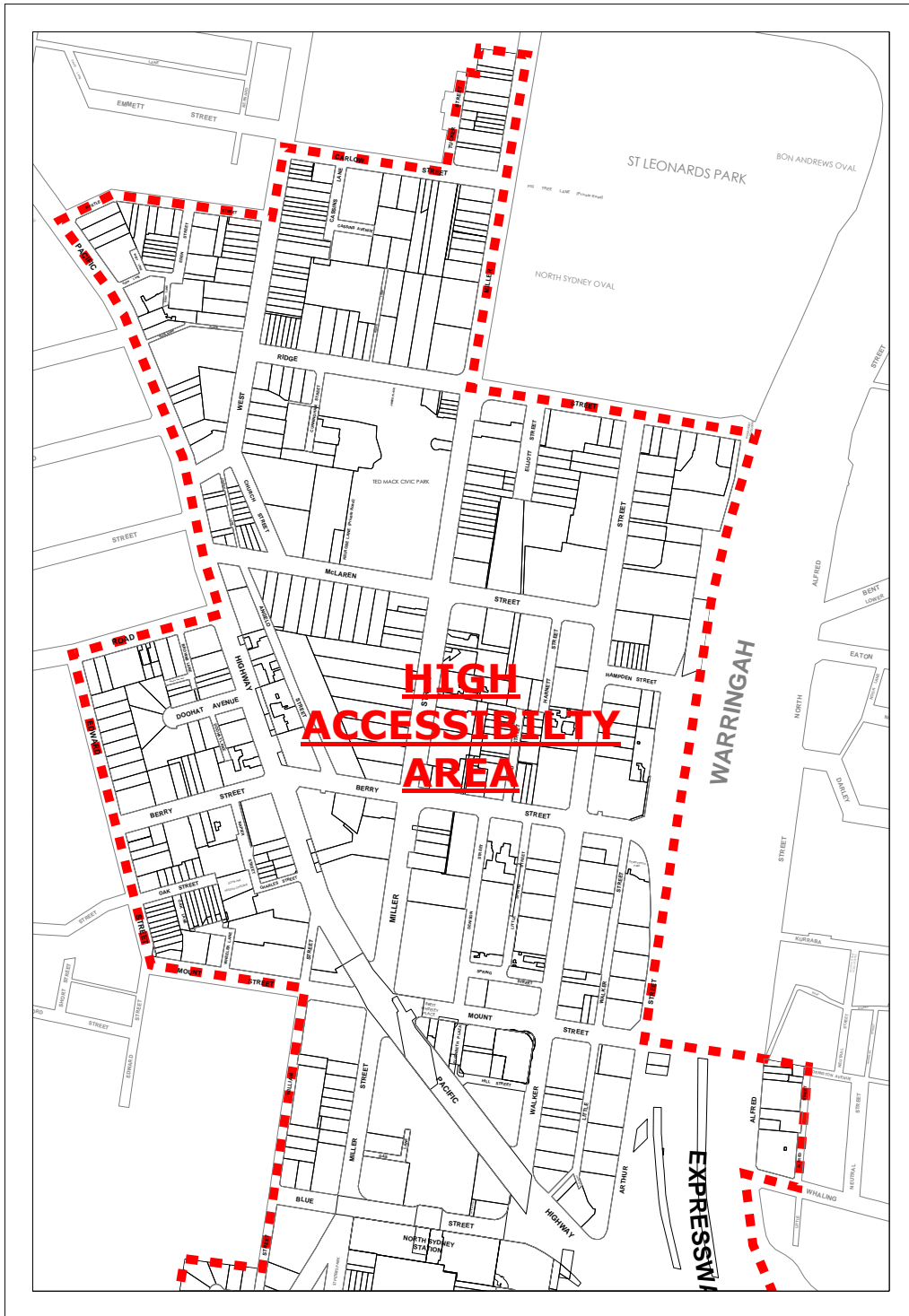


Figure B-10.2

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Car Parking and Transport

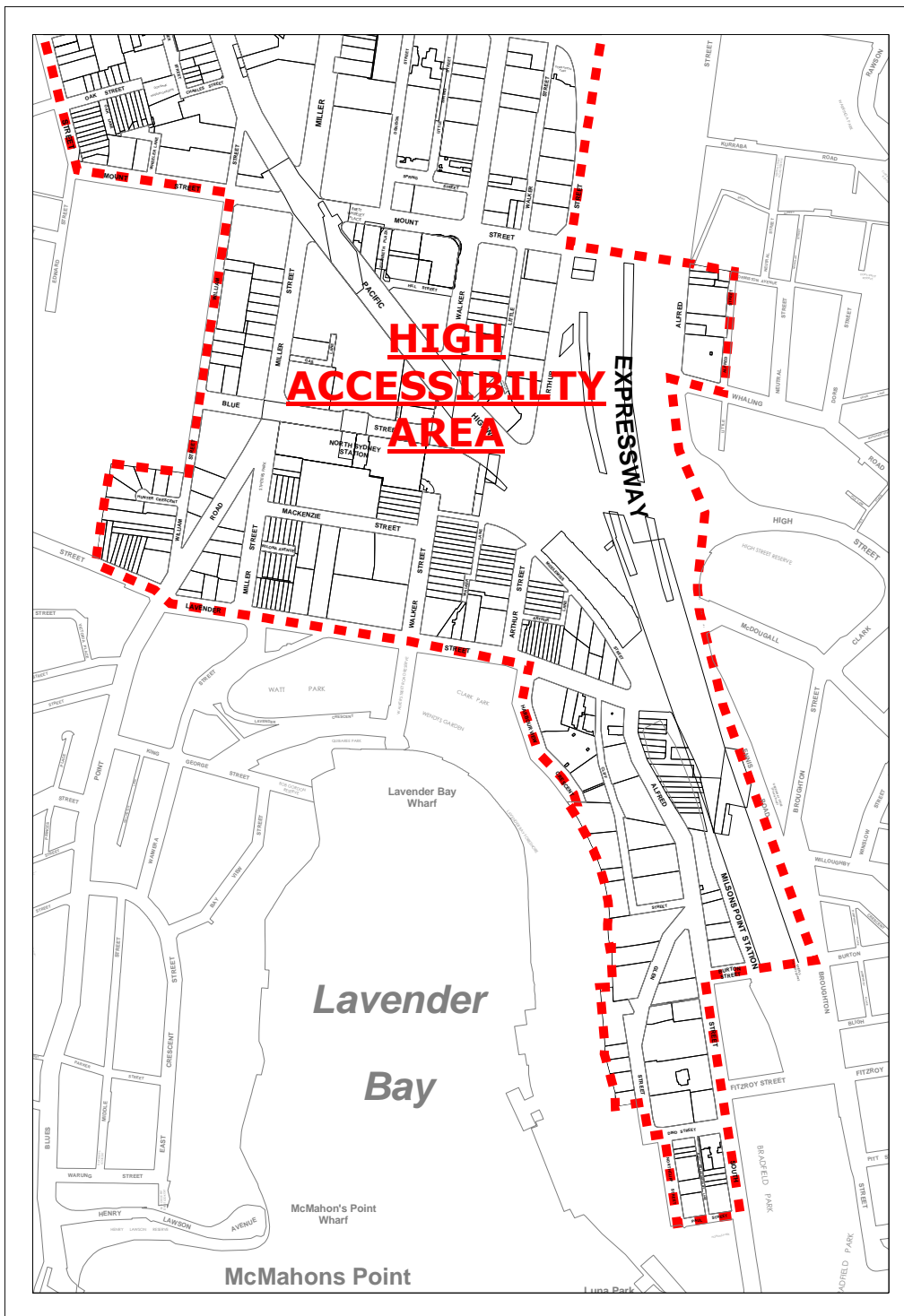


Figure B-10.3



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Car Parking and Transport

- P2 For residential flat buildings, shop-top housing and attached dwellings, on-site car parking provision below maximum rates specified in Table B-10.1 is encouraged where the proposed development has good access to public transport.
- P3 For residential developments containing 4 or more dwellings, a car wash bay is to be provided within the visitor parking area. The car wash bay may comprise a visitor car space. The wash bay is to be adequately drained and connected to the sewer line.
- P4 The use of car spaces is restricted to the occupiers(s) of a development.
- P5 Designate visitor car parking spaces as common property.
- P6 Developments containing adaptable housing must allocate at least one accessible parking space to each adaptable dwelling.

Non-Residential Development

- P7 Provide on-site car parking not exceeding the maximum rates specified in Table B-10.2.

TABLE B-10.2: Non-residential Parking Rates in Specific Locations

Development Type	Zone	Location	Maximum Parking Rate
All-uses	B3— Commercial Core	North-Sydney Centre	1 space / 400m ² -GFA*
All-uses not listed in Table B-10.3— Specific Uses	B1— Neighbourhood Centre	All	1 space / 100m ² -non- residential-GFA
	B3— Commercial Core	All locations except North-Sydney Centre	1 space / 400m ² -non- residential-GFA
	B4—Mixed Use	North-Sydney Centre Milsons Point St Leonards	1 space / 400m ² -non- residential-GFA
		Crows Nest Neutral Bay Cremorne	1 space / 60m ² -non- residential-GFA
	IN2— Light Industrial	All	1 space / 100m ² -non- residential-GFA

*—— GFA = gross floor area

TABLE B-10.2: Non-residential Parking Rates in Specific Locations

Zone	Location	Development Type	Maximum Parking Rate
<u>B1 Neighbourhood Centre</u>	<u>High Accessibility Area **</u>	<u>All</u>	<u>1 space / 400m² non- residential GFA</u>
	<u>All locations other than High Accessibility Area **</u>	<u>All uses listed in Table B-10.3 - Specific Uses</u>	<u>As per Table B-10.3</u>
		<u>All uses not listed in Table B-10.3 - Specific Uses</u>	<u>1 space / 100m² non- residential GFA</u>

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TABLE B-10.2: Non-residential Parking Rates in Specific Locations			
Zone	Location	Development Type	Maximum Parking Rate
B3 Commercial Core	High Accessibility Area **	All	1 space / 400m² non-residential GFA*
B4 Mixed Use	High Accessibility Area **	All	1 space / 400m² non-residential GFA*
	All locations other than High Accessibility Area **	All uses listed in Table B-10.3 - Specific Uses	As per Table B-10.3
		All uses not listed in Table B-10.3 - Specific Uses	1 space / 60m² non-residential GFA
IN2 Light Industrial IN4 Working Waterfront	All	All uses listed in Table B-10.3 - Specific Uses	As per Table B-10.3
		All uses not listed in Table B-10.3 - Specific Uses	1 space / 100m² non-residential GFA

* [GFA = gross floor area](#)

** [The extent of the High Accessibility Area is identified in Figures B-10.1 to B-10.3.](#)

- P8 For specific non-residential uses, provide on-site car parking not exceeding the maximum rates specified in Table B-10.3. [The parking requirements within Table B10.2 take precedence over the rates within Table B-10.3.](#)

TABLE B-10.3 – Parking rates for specific non-residential uses	
Development Type	Maximum Parking Rate
Boat repair facilities	<ul style="list-style-type: none"> 1 space / 200m² of GFA* Appropriate loading facilities
Child care centres	<ul style="list-style-type: none"> Staff 1 space / 2 employees with a max. of 3 spaces Parents < 24 places - 2 spaces ≥ 24 places - 3 spaces
Educational establishments	<ul style="list-style-type: none"> 1 space / 6 staff
Entertainment facilities	<ul style="list-style-type: none"> 1 space / 100m² of GFA
Food and drink premises (excluding Pubs)	<ul style="list-style-type: none"> 1 space / 50m² of GFA
Funeral chapels Funeral homes	<ul style="list-style-type: none"> 1 space/ 5 seats
Hospitals	<ul style="list-style-type: none"> 1 space / 6 beds + 1 space / 4 staff
Hotel and motel accommodation Pubs Registered clubs (excluding residential)	<ul style="list-style-type: none"> 1 space / 100m² (licensed floor area), 1 space / 5 bedrooms
Light industries	<ul style="list-style-type: none"> 1 space / 200m² of GFA Appropriate loading facilities



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TABLE B-10.3 – Parking rates for specific non-residential uses	
Development Type	Maximum Parking Rate
Medical centres	North Sydney Centre Milsons Point St Leonards <ul style="list-style-type: none"> • 1 space / 400m²
	All other areas <ul style="list-style-type: none"> • 4 spaces / 100m² of GFA
Places of public worship	<ul style="list-style-type: none"> • 1 space / 100m² of GFA
Recreational facilities	<ul style="list-style-type: none"> • 1 space / 100m² of GFA
Restricted premises Sex service premises	<ul style="list-style-type: none"> • 1 space / 205m² of GFA
Serviced apartments	<ul style="list-style-type: none"> • 1 space / 5 apartments
Service stations Vehicular repair stations	<ul style="list-style-type: none"> • 2 spaces / workshop bay
Supermarkets	North Sydney Centre Milsons Point St Leonards <ul style="list-style-type: none"> • 1 space / 400m² of GFA
	All other areas <ul style="list-style-type: none"> • 4 spaces / 100m² of GFA
Vehicular sales or hire establishment	<ul style="list-style-type: none"> • 1 space / 100m² of GFA

* GFA = gross floor area

** The extent of the High Accessibility Area is identified in Figures B-10.1 to B-10.3.

P9 On-site car parking provision below maximum rates specified in Tables B-10.2 and B-10.3 is encouraged where the proposed development has good access to public transport.

P10 Council must not grant consent for car parking spaces for entertainment facilities unless the location and availability of existing public car parking in the vicinity of the proposed entertainment facility has been considered. Any car parking allowed specifically for the entertainment facility may, with consent, also be available only for short-stay parking during the hours of 9.30am to 6pm, but for no other purpose.

P11 In addition to P7 and P8 above, parking for motorcycles must be provided at the minimum rate of 1 space per 10 cars or part thereof.

Note: *Submit a Traffic and Transport Study prepared by an appropriately qualified person, if required.*

10.2.2 Car Share Schemes

Car share schemes support sustainable transport modes, such as walking, cycling and public transport by filling a “mobility gap” – that is providing access to a vehicle on an “as needs” basis, without the high cost of ownership or private parking space provision.

Objectives

O1 To minimise the negative impacts of vehicular traffic associated with new development on the safety and efficiency of existing roads and the amenity of the North Sydney community.

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North Sydney Development Control Plan 2013 – DRAFT AMENDMENT**Car Parking and Transport****Provisions**

- P1 Council supports the provision of car share parking in residential, mixed use and commercial developments. Where a car share scheme is to be provided:
- (a) The number of car share parking spaces provided does not replace more than 25% of the maximum off-street parking requirement if those car share spaces had not been provided, excluding any residential visitor parking spaces; and
 - (b) Each car share space does not replace less than 3 or more than 4 of the maximum residential and/or non-residential parking space requirements.
- P2 Where car share spaces are to be provided on private land, they must be:
- (a) Publicly accessible 24 hours a day, 7 days a week;
 - (b) Located as close as practical to site's entry to the public road;
 - (c) Where more than one space is to be provided, located adjacent to one another;
 - (d) Clearly marked for use by car share scheme vehicles only; and
 - (e) Identified as common property on any registered title of land and not sold or leased to an individual.

10.3 DESIGN AND LAYOUT**10.3.1 General****Objectives**

- O1 To ensure that the parking area is adequately designed to enable the manoeuvring and accommodation of the types of vehicles likely to use the site.
- O2 To ensure that parking areas are adequately designed for mobility impaired persons.
- O3 To ensure that the servicing of the site is adequately accommodated for on site.

Provisions

- P1 The size and design of all parking spaces, loading facilities and any associated manoeuvring areas must be in accordance with AS2890.
- P2 1-2% of all non-residential parking spaces are to be designated for use by the disabled.
- P3 Car parking spaces for people with disabilities or their associates are provided adjacent or close to the principal public entrance in accordance with AS 1428.2.
- P4 Motorcycle parking must have a minimum dimension of 1.2m x 3m.
- P5 Council does not support the use of use of turntables for vehicular manoeuvring unless there is no feasible alternative.
- P6 Where security doors/gates are proposed, an intercom system is to be provided to facilitate visitor/service access to underground parking areas.
- P7 Where resident parking and non-resident parking is to be provided within the same development, vehicular access to the private residential areas of the parking area is to be restricted through appropriate security measures.

10.3.2 Stacking of parking spaces**Objective**

- O1 To minimise the impact on existing vegetation and landscape features and to prevent adverse safety impacts for drivers and pedestrians.
- O2 To minimise inconvenience to all users of the parking spaces.

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O3 To minimise impacts on the surrounding road system.

Provisions

P1 Council does not support the stacking of parking spaces in the non-residential component of developments. However, Council may permit the stacking of spaces, but only where:

- (a) the number of stacked spaces does not exceed 25% of the total number of non-residential spaces; or
- (b) where the parking spaces are in the same ownership or strata lot.

P2 Council does not support the use of mechanical car stacker systems for the provision of car parking. However, Council may consent to the use of a mechanical car stacker, but only where it can be demonstrated:

- (a) That the use of the mechanical stacker will enable a reduced level of excavation to preserve existing significant tree(s) and or natural landscape features on the site;
- (b) That the site's shape is physically constrained, such that conventional parking arrangements would not enable compliance with the parking provision requirements of this DCP;
- (c) Where a single car stacker system accommodates more than 10 vehicles within a multi-dwelling housing development, a residential flat building, a mixed use or commercial premises, that a car waiting space is provided entirely on the site and adjacent to the mechanical stacker to enable a vehicle to wait while the stacker is in use. The waiting area must be located such that it does not interfere with the ability for a vehicle to enter and leave the stacker, while a car is occupying the waiting area.

Note: A car stacker system referred to in P2(c) refers to a system which uses a lift and/or horizontal moving platforms.

10.4 LOADING AND SERVICING FACILITIES

Objectives

- O1 To ensure that adequate off street loading, delivery and servicing facilities are provided.
- O2 To minimise the impacts of loading, deliveries and servicing operations on the safety and efficiency of the surrounding road system.

Provisions

P1 Off-street loading and unloading facilities should be provided for all commercial and industrial premises as required by Council. The requirement for, number and size of loading bays will be determined by Council having regard to the:

- (a) Intended use of the premises;
- (b) Frequency of deliveries / collections;
- (c) Size and bulk of goods to be delivered / collected;
- (d) Size of vehicles to be used;
- (e) Practicality of accommodating delivery and service vehicles on site; and
- (f) Likely impacts on traffic safety and efficiency on adjoining roads.

P2 Developments containing more than 30 dwellings but less than 60 must provide at least 1 service delivery space, capable of accommodating at least 1 Medium Rigid Vehicle.

P3 Developments containing more than 60 dwellings must provide at least 1 service delivery space, capable of accommodating at least:

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- (a) 1 Heavy Rigid Vehicle; or
 (b) 2 Medium Rigid Vehicles.

Note: For the purposes of P2 and P3 above, Medium Rigid Vehicles and Heavy Rigid Vehicles are deemed to be same as that described in Section 2 of Australian Standard AS 2890.2 - Parking facilities - Part 2: Off-street commercial vehicle facilities.

- P4 Provide loading spaces and courier parking spaces near vehicle entry points to a site and lifts.
- P5 Height clearances, including access routes to the required loading spaces must comply with Australian Standard AS 2890.2.

10.5 BICYCLE PARKING AND ASSOCIATED FACILITIES**Objective**

- O1 To encourage the use of bicycles as an environmentally beneficial form of transport and an alternative to the use of private motor vehicles.

Provisions**Number**

- P1 All new development is to provide on-site, secure bicycle parking spaces and storage for residential accommodation in accordance with the minimum rates specified in Table B-10.4 with the following exceptions:
- (a) where an apartment in a residential building has a basement storage area on title that is large enough to accommodate a bike and being no smaller than a Security Level A bike locker, then additional bike parking for that apartment is not required; and
- (b) where a proposed use is not included below, bicycle parking and storage rates will be considered on merit taking into consideration rates for similar uses in Table B-10.4 as well as those contained in the *NSW Planning Guidelines for Walking and Cycling* (2004).

TABLE B-10.4: Minimum Bicycle Parking Rates		
Development Type	Rate	
	Occupants	Visitor / Customer
Residential		
Residential accommodation	1 / 1 dwelling	1 / 10 dwellings
Tourist and Visitor Accommodation		
Serviced apartments, Hotels and motels	1 / 4 staff	1 / 20 rooms
Backpackers accommodation	1 / 4 staff	1 / 10 beds
Commercial Premises		
Office premises, Business premises	1 / 150m ² GFA	1 / 400m ² GFA
Bulky goods premises	1 / 600m ² GFA	1 / 1000m ² GFA
Shop, Restaurant or cafe	1 / 250m ² GFA	2 + 1 / 100m ² over 100m ² GFA
Shopping centre	1 / 200m ² GFA	1 / 300m ² sales GFA
Pub	1 / 100m ² GFA	1 / 100m ² GFA
Entertainment facility	-	Greater of 1 / 15 seats or 1 / 40m ²

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TABLE B-10.4: Minimum Bicycle Parking Rates		
Development Type	Rate	
	Occupants	Visitor / Customer
		GFA
Place of public worship	-	Greater of 1 / 15 seats or 1 / 40m ² GFA
Industry		
Industry, Warehouse or Distribution centre	1 / 10 staff	-
Community		
Child care centre	1 / 10 staff	2 / centre
Medical centre, Health consulting rooms	1 / 5 practitioners	1 / 200m ² GFA
Tertiary educational institution	1 / 10 staff	1 / 10 students
Swimming pool	1 / 10 staff	2 / 20m ² of pool area
Library	1 / 10 staff	2 + 1 / 200m ² GFA
Art gallery or museum	1 / 1000m ² GFA	1 / 200m ² GFA
Other		
	On merit. Council will give consideration to the rates contained within the <i>Planning guidelines for walking and cycling 2004</i> .	

- P2 Bicycle parking facilities are to be additional to other parking requirements.
- P3 The minimum number of bicycle parking spaces is to be rounded up to the nearest whole number if it is not a whole number.

Type

- P4 Secure bicycle parking facilities are to be provided in accordance with the following:
- (a) Security Level A or B facilities for occupants of residential dwellings (Security Level A is preferred);
 - (b) Security Level B facilities for staff/employees of any land use; and
 - (c) Security Level C facilities for visitors of any land use.

Note: The security level of facilities are described in detail within AS 2890.3.

Design

- P5 Design bicycle parking and storage facilities in accordance with the relevant Australian Standards that apply at the time.

Location

- P6 Locate private bicycle storage facilities within basement parking levels of the building where provided.
- P7 If private storage facilities are located in a basement, they are to be located:
- (a) on the uppermost level of the basement; and
 - (b) as close to the primary entry point as possible; and
 - (c) subject to security camera surveillance where such security systems exist.

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North Sydney Development Control Plan 2013 – DRAFT AMENDMENT**Car Parking and Transport****Access**

- P8 A safe path of travel from Security Class A and B facilities to entry/exit points is to be clearly marked.
- P9 Access to Security Class A and B facilities areas are to be:
- (a) a minimum of 1.8m wide to allow passage of a pedestrians and bikes to pass each other (access ways can be shared with vehicles within buildings and at entries to buildings);
 - (b) accessible via a ramp;
 - (c) clearly identified by signage; and
 - (d) accessible via appropriate security/intercom systems.
- P10 Locate Security Level 3 facilities in an accessible at-grade location near a major public entrance to the development, preferably undercover, is able to be passively surveyed from the public domain and/or the proposed or adjoining developments, is well lit to enable adequate night time use and is to be signposted.

Changing / shower facilities

- P11 For non-residential uses, the following facilities for bike parking are to be provided at the following rates:
- (a) 1 personal locker for each bike parking space;
 - (b) 1 shower and change cubicle for up to 10 bike parking spaces;
 - (c) 2 shower and change cubicles for 11 to 20 or more bike parking spaces are provided;
 - (d) 2 additional shower and change cubicles for each additional 20 bike parking spaces or part thereof;
 - (e) Showers and change facilities may be provided in the form of shower and change cubicles in a unisex area or in both female and male change rooms; and
 - (f) Locker, change room and shower facilities are to be located close to the bicycle parking area, entry/exit points, and within an area of security camera surveillance where there are such building security systems.

10.6 TRAVEL PLANS

Travel Plans identify typical travel demand and mode share for a proposed development based on empirical analysis of similar developments, then identify what actions will be delivered to increase walking, cycling, public transport and ride sharing mode share, thereby reducing the negative impacts of the traffic generated by the development on the North Sydney community. Travel Plans encourages people to consider alternate means to accessing a site rather than by private motor vehicle and may also be known as:

- (a) Workplace Travel Plan (e.g. for commercial premises and industry and the like);
- (b) Education Travel Plans (e.g. educational establishments);
- (c) Residential Travel Plans (e.g. residential accommodation); and
- (d) Visitor and Leisure Travel Plans plus others (e.g. Tourist and visitor accommodation and recreational facilities)

Objectives

- O1 To encourage employees, residents and visitors to make greater use of public transport, cycling, walking and car sharing for commuting, visiting and work related journeys.

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Provisions

- P1 A Travel Plan must be submitted with all development applications that involve:
- (a) New, or redevelopment of, educational establishments which result in the total number of students exceeding 100 persons.
 - (b) New, or redevelopment of, non-residential developments which result in the total floor space of the development exceeding 2,000m² (approximately 100 employees in an office development).
 - (c) The provision of 50 or more dwellings.
- P2 Components of a Travel Plan should include:
- (a) empirical analysis of typical travel demand and mode share outcomes for walking, cycling, public transport and private vehicular use for similar developments (base case scenario);
 - (b) a vision and objectives for the Travel Plan that are consistent with the community's vision for transport as detailed in the North Sydney Transport Strategy;
 - (c) specific, measurable, ambitious and realistic targets, including time-frames for achieving them;
 - (d) an action plan, with links to identified targets, that demonstrates how these actions will deliver the Travel Plan vision, reduce travel demand and/or increase walking, cycling, public transport and ride sharing for trips to and from the site. This could include:
 - (i) Identification and promotion of public transport options to access the site (for example, on a website and /or business cards);
 - (ii) Preparation of a Transport Access Guide (TAG) for the site.
Note: *Transport Access Guides (TAGs) provide information to staff and clients on how to reach places via public transport, walking or cycling.*
 - (iii) Implementation of a car pool system for employees;
 - (iv) Introduce staff car sharing scheme for fleet vehicles;
 - (v) Use taxis or public transport for work related journeys;
 - (vi) Provide priority parking for staff who car pool with more than 2 passengers;
 - (vii) Encouragement of cycling and walking to the site through generous provision of bicycle parking, showers and lockers;
 - (viii) Incentive schemes to encourage employees to commute using sustainable transport modes (such as the provisions of public transport vouchers/subsidised public transport tickets);
 - (ix) Allocation of designated parking spaces for a car sharing scheme;
 - (x) Prominent display of a large map of cycling routes (i.e. in the foyer of a residential, educational or business complex);
 - (xi) Provide staff with cycling allowances, loans and insurance together with bicycle storage and showering and changing facilities; and
 - (xii) Provision of a bus to pick up and drop off staff to the nearest railway station.
Note: *The strategies listed in P2 above do not comprise an exhaustive list and Council will consider alternative strategies that reduce the reliance on the use of private motor vehicles.*
 - (e) undertakings to regularly evaluate and review the Travel Plan, including a submission to Council, to ensure that proposed travel demand management and

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walking, cycling, public transport, ride share and private vehicle mode share outcomes for the development are achieved.

- P3 The maximum parking requirements for on-site car parking may be reduced on the basis of a written agreement between Council and the owner/occupiers for the implementation of a Travel Plan.
- P4 The undertakings made in a Travel Plan submitted with a development application may be included as conditions to any development consent.

10.7 TRAFFIC & PARKING IMPACT ASSESSMENT**10.7.1 Objectives**

- O1 To ensure that a proposed development's impact on the surrounding arterial and local road network, identification of transport infrastructure requirements and cost implications are adequately considered prior to issuing of development consent.

10.7.2 Provisions

- P1 A Traffic & Parking Impact Assessment must be submitted with all development applications that are also required to be referred to the Roads and Maritime Services under cl.104 and Schedule 3 of the [Infrastructure SEPP](#), and for all applications which are classified as designated development pursuant to s.4.10 of the [EP&A Act 1979](#).
- P2 Council may require a Traffic & Parking Impact Assessment to be submitted with a development application for one or more of the following types of new developments, regardless of whether they are captured by cl.104 and Schedule 3 to the [Infrastructure SEPP](#):
- (a) Child care centres
 - (b) Drive-in take-away food outlets
 - (c) Education facilities
 - (d) Entertainment facilities
 - (e) Health care facilities
 - (f) Hotel and motel accommodation
 - (g) Industrial premises
 - (h) Public car parks
 - (i) Places of public worship
 - (j) Pubs
 - (k) Recreation and tourist facilities
 - (l) Registered clubs
 - (m) Retail premises comprising supermarkets and/or shopping centres
 - (n) Service stations
 - (o) Other developments. Generally, if there is a significant expansion or modification to an existing development type, as outlined in the list above, then a Traffic & Parking Impact Assessment must be submitted with the development application. Seek Council Officer advice for further information.
- P3 The following issues are to be considered when preparing a Traffic & Parking Impact Assessment for Council to adequately assess the traffic impacts of a proposed development:
- (a) Existing traffic generation



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- (b) Proposed traffic generation
- (c) Capacity of road network
- (d) Environmental capacity of the road network
- (e) Traffic safety
- (f) Traffic amelioration
- (g) Off-street parking
- (h) On-street parking
- (i) On-street metered parking
- (j) Vehicle access
- (k) Public & active transport
- (l) Street lighting
- (m) Construction Management Plan
- (n) Work zones
- (o) Partial road closure (temporary)
- (p) Full road closure (temporary)
- (q) Cyclists and cycle paths

Note. Refer to the Performance Guide for more details.

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