

2.9 EXISTING URBAN TREE CANOPY - PUBLIC

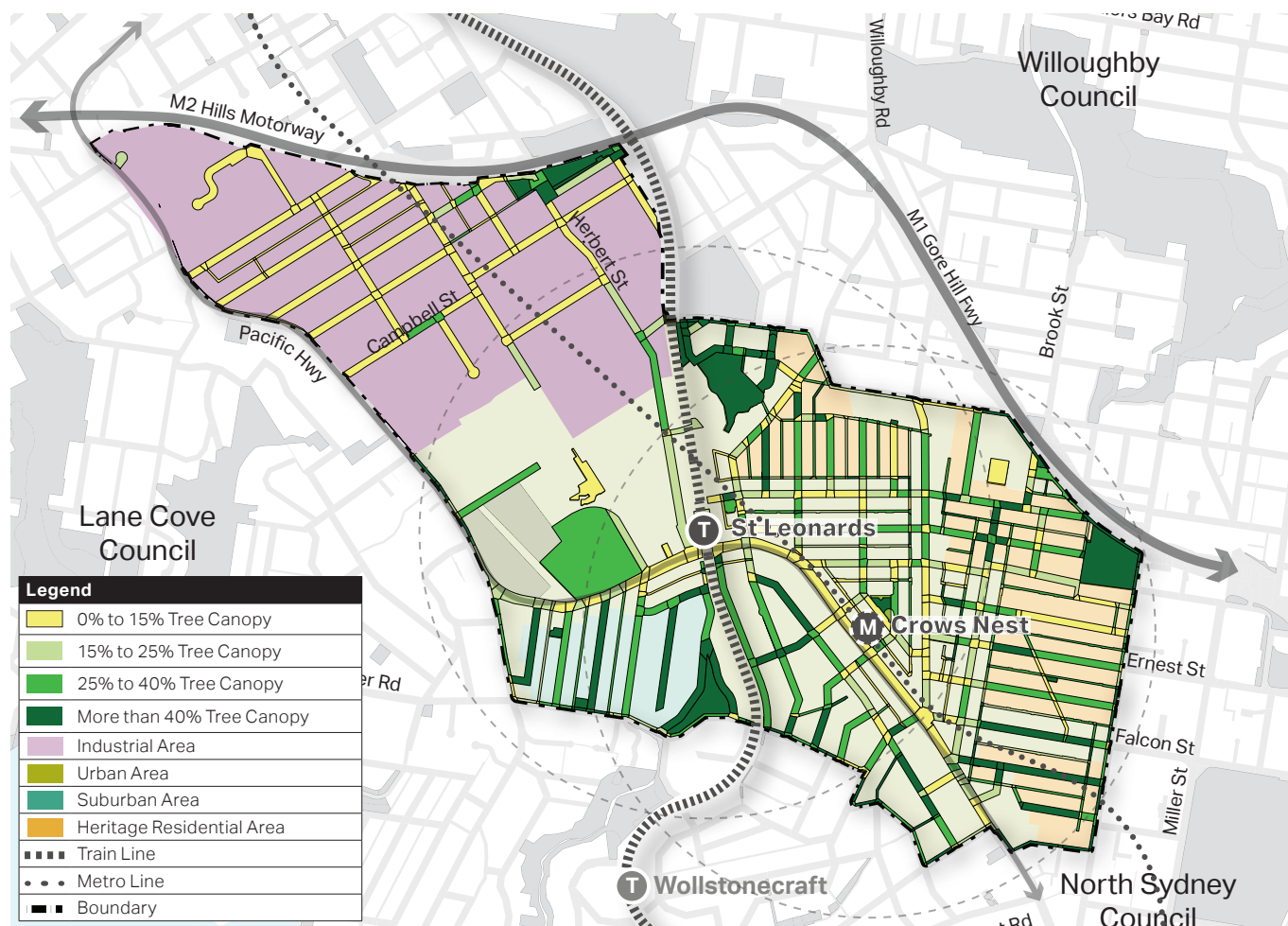


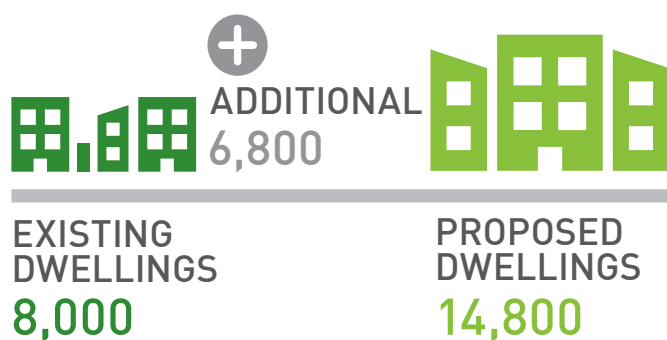
Figure 8: Existing tree canopy (Source: AECOM, 2018)

We have also highlighted the amount of tree canopy currently achieved on public land only, noting that the public domain is where the DPE and local governments have the greatest ability to influence the tree canopy.

If we take in account only the existing tree canopy within public lands, the existing percentage of canopy coverage gets lower values and defines a bigger shortfall to achieve the target tree canopy cover.

What this highlights is the amount of key areas that are below 15% coverage and how crucial it is for these areas to be well provisioned in order to achieve good canopy cover.

Urban Tree Canopy Cover - Public Land	INDUSTRIAL	URBAN	SUBURBAN	HERITAGE
Land Area (ha)	84.72 ha	126.57 ha	16.46 ha	44.14 ha
Public Land (%)	2.4%	8.1%	19.2%	10.9%
Target (%)	15%	25%	40%	25%
Shortfall (%)	12.6%	16.9%	20.8%	14.1%



Existing Residential Dwellings (2018)	8,000
Additional Residential Dwellings	6,800
Proposed Residential Dwellings (2036)	14,800

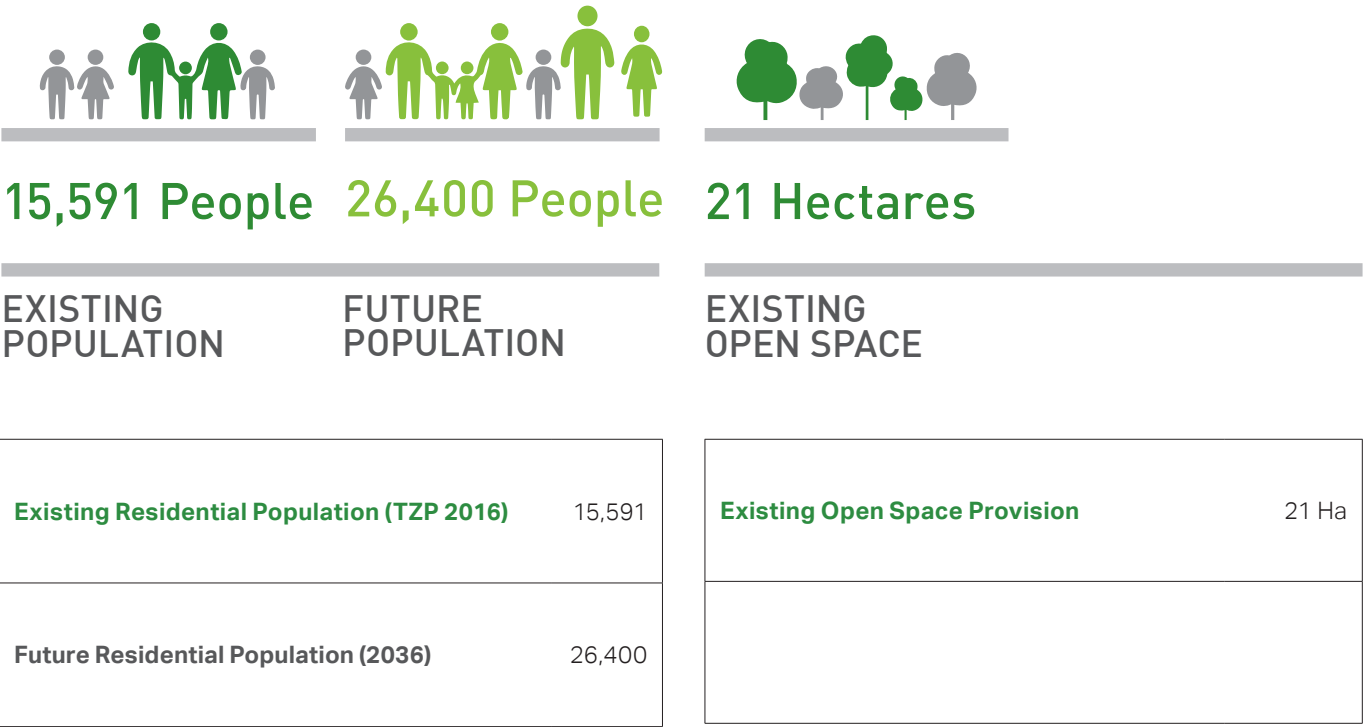


Existing Non-residential GFA (2018)	740,000 sqm
Additional Non-residential GFA	110,000 sqm
Proposed Non-residential GFA (2036)	850,000 sqm

3.0 CHANGE SUMMARY

The purpose of this change summary is to capture the likely changes occurring in St Leonards and Crows Nest over the long term. The Department of Planning and Environment’s proposed changes to the land zoning, height of buildings and FSR are underpinned by forecast growth for additional residential dwellings and non-residential Gross Floor Area (GFA). The following changes are proposed for St Leonards and Crows Nest.

CHANGE TABLE	
Area	271.9 ha
Existing Open Space	21 ha
Existing Dwellings	8,000 dwellings
Existing Population	15,591 people
Estimated Future Dwellings	14,800 dwellings
Estimated Future Population	26,400 people



4.0 BUILDING THE STRUCTURE

4.1 VISION STATEMENT

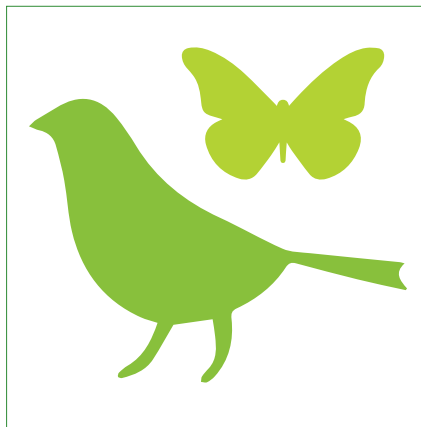
The overarching vision for open space and landscape is to:

“Deliver green infrastructure that provides social, environmental and economic benefits for the people who live, work and visit St Leonards and Crows Nest.”



OPEN SPACE FOR RECREATION

Establish an interconnected network of open spaces that are flexible, diverse, safe and equitable to meet the community's needs for recreation space and foster the community's values for healthy, vibrant and active living.



OPEN SPACE FOR BIODIVERSITY

Enhance the natural identity of the landscape and harbour-to-harbour biodiversity corridors to provide a range of environmental and social benefits.



URBAN TREE CANOPY

Reinforce urban tree canopy in the public domain to maximise comfort and enhance the liveability, health and well-being of both the community and the environment.

4.2 GUIDING PRINCIPLES

PEOPLE



PRINCIPLE 1 COMMUNITY NEED

Deliver a high quality public domain aligned with the community's needs



PRINCIPLE 2 HUMAN SCALE

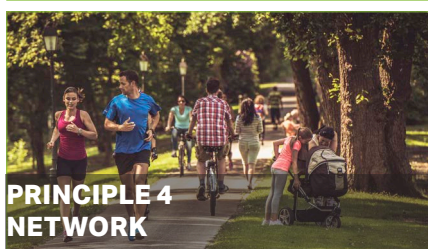
Plan for people-oriented spaces and streets to prioritise pedestrians



PRINCIPLE 3 LOCAL IDENTITY

Enhance the local character and identity to create a strong sense of place

NATURE



PRINCIPLE 4 NETWORK

Create a network of open space to enhance biodiversity and connectivity



PRINCIPLE 5 QUALITY AND QUANTITY

Maintain and improve the quality and quantity of future open space



PRINCIPLE 6 HIERARCHY

Clarify the open space hierarchy and establish clear focal points

HEALTH



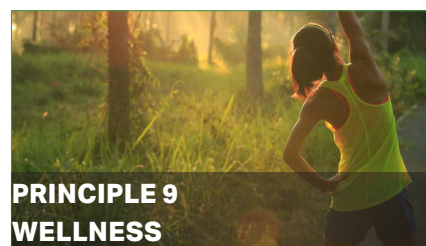
PRINCIPLE 7 EQUITY

Ensure equitable access to open space to increase its usage and functionality



PRINCIPLE 8 SAFETY

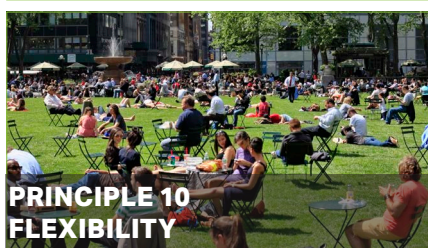
Provide a safe, comfortable environment to encourage activation and vibrancy



PRINCIPLE 9 WELLNESS

Promote active and healthy living to contribute to the well-being of the community

ECONOMY



PRINCIPLE 10 FLEXIBILITY

Design for flexibility and adaptability to cater for the future population



PRINCIPLE 11 DELIVERY

Facilitate a coordinated, strategic delivery and provision of open space



PRINCIPLE 12 FUNDING

Optimise funding of open space through innovative financing models



5.0 DEFINING THE PLACE

The Open Space Plan responds to the vision and guiding principles articulated in the previous section of the Green Plan. It responds to the open space provision when considering proposed growth. In addition to the previously proposed new open spaces it includes additional open spaces and identifies infrastructure initiatives, which are classified into one of three categories in line with the regional NSW policy.

The categories are as follows:

ID	Category	Time frame (years)
●	Committed Initiative	0-10
●	Initiatives for Investigation	0-10 or 10-20
●	Visionary Initiatives	20+

Committed Initiatives have been identified as having a path of funding and delivery.

Initiatives for Investigation have been identified as having potential funding mechanisms but the delivery method may be uncertain. These initiatives require further investigation to resolve.

Visionary Initiatives have no identified funding or delivery mechanisms and require further investigation as to their feasibility.

5.1 INITIATIVES

Committed Initiatives

There are a number of projects in the area that are either already being undertaken, or that they have been committed to by the three Councils. These include the following:

- Gore Hill Oval upgrade works and regional playground – Gore Hill Oval is being upgraded by Willoughby Council to meet identified recreational needs and increase capacity of oval. A regional playground is also proposed with \$2,000,000 allocated in the draft St Leonards Crows Nest Special Infrastructure Contribution (SIC) to deliver the regional playground
- Hume St Park – North Sydney Council plans to close part of Hume Street to expand Hume Street Park. A later stage of these plans includes relocating both the indoor sports facility and car parking underground to increase open space.
- Friedlander Place – Friedlander Place and surrounds are being upgraded as part of developments that have been approved by Lane Cove Council and are currently proceeding.
- 101-111 Willoughby Road – A publicly accessible plaza is being delivered as part of the new mixed use development at Nos.101-111 Willoughby Rd.
- Royal North Shore Hospital Campus - Open space areas are proposed throughout the hospital campus in accordance with the site's masterplan.
- St Leonards Plaza (over railway line between Lithgow St and Canberra Ave) - Lane Cove Council is proposing a 5,000m² plaza and public transport interchange over the railway line south of the Pacific Highway. This would create new open space in the centre of St Leonards and improve links to additional community facilities.
- Oxley St and Mitchell St Linear Parks - North Sydney Council is proposing widening footpaths, additional tree planting and public domain improvements along both Oxley St and Mitchell St. This would be facilitated by increasing building setbacks along these streets and upgrades may be delivered as part of adjacent development proposals.

Initiatives for Investigation

There are several initiatives proposed by the Councils and the Department that should be investigated to deliver additional open space in the area. These include:

- Northern Linear Park between Chandos St and Talus Reserve - Provide northern linear park from Herbert Street bridge to Chandos Street. This would form part of the foreshore-to-foreshore green link. \$28,059,000 has been allocated in the draft St Leonards Crows Nest Special Infrastructure Contribution (SIC) to deliver this north linear park
- Southern Linear Park on Lithgow St adjacent to rail corridor – It is proposed to investigate Lithgow St and the land adjacent to the railway line as an opportunity to provide a linear park forming part of a larger walking and cycling network. It might include exercise equipment, dog area, drinking fountains and other furniture. This would also form part of the foreshore-to-foreshore link. \$1,700,000 has been allocated in the draft St Leonards Crows Nest Special Infrastructure Contribution (SIC) to deliver the south linear park
- Hume St Park – It is proposed to investigate further land acquisitions to supplement North Sydney Council's existing plans for Hume Street Park to provide a larger consolidated open space area in the heart of the area. \$25,900,000 has been allocated in the draft SIC for land acquisition to expand Hume Street Park.
- Christie St Reserve – North Sydney Council are proposing upgrades to Christie St Reserve. This is likely to be undertaken as part of an adjoining development and is being investigated by Council.
- Embellishment of Talus St Reserve and St Thomas Rest Park – Opportunities should be investigated by Willoughby and North Sydney Councils to embellish existing open space areas within Talus St Reserve and St Thomas Rest Park.
- St Leonards South - Lane Cove Council have identified indicative new open space areas within South St Leonards however, the location of the open space is subject to the finalisation of an existing planning proposal.
- Willoughby Road Plaza – North Sydney Council have a concept proposal to close Willoughby Road (south of Burlington St) and create a pedestrian plaza between Burlington St and Falcon St.

- Artarmon Industrial Area Tree Plantings - Opportunities for additional tree plantings should be investigated along Herbert St, Westbourne St, Clarendon St and Hotham St.
- Embellishment of Land on Taylor Lane and Punch St – Existing parcels of land on Taylor Lane and Punch St that are zoned RE1 Public Recreation should be investigated by Willoughby Council for open space embellishments.
- Assist Councils to support green infrastructure initiatives in their DCPs – Investigate what assistance could be given to Willoughby, Lane Cove and North Sydney Councils to include provisions for publicly accessible green infrastructure (eg green roofs) in their strategic planning controls.
- Engage with Councils to develop methodology to deliver enhanced Urban Link between St Leonards Station and Crows Nest Metro.
- Engage with Councils to develop methodology to deliver major Blue and Green Links - New major blue and green links at Falcon Street, portion of the Pacific Highway and to Oxley Street, along the railway and adjacent to the M1-M2 Motorway.
- Engage with Councils to develop methodology to deliver secondary Blue and Green Links - New secondary green and blue links connecting the open space network across the area. Some of these links include Reserve Road through the industrial zone, Nicholson Street through proposed mixed use zone, and Chandos Street and Alexander Street connecting the heritage zone.

Visionary Initiatives

This draft Green Plan has also investigated potential 'visionary' options which are potential long term open space solutions which are unfunded and that are subject to future investigation. These include:

- Open Space Area north of St Leonards Station – Investigate an open space area over the railway line to the north of St Leonards station connecting to Talus Reserve and Herbert St and including community facilities.
- Working with government agencies to explore the opportunity to provide Green Rooftops at facilities such as 2-4 Herbert St.

The Open Space Plan balances the upcoming developments and responds to the current demand for recreational spaces and green pockets. Adding approximately 8.57 hectares of open space.

Note: All additional new open spaces proposed are subject to future investigation and feasibility testing with stakeholders.

Existing Open Space	Ha	C.I.V
1 Gore Hill Park	4.52	
2 Pacific Hwy	0.06	
3 The Forum Plaza	0.27	
4 Christie St Plaza	0.11	
5 Plunkett St	0.03	
6 Talus St Reserve	1.94	●
7 Herbert St	0.17	
8 Ella St - Dalleys Rd	0.07	
9 Tennis court at Wheatleigh St	0.34	
10 Brook St	0.05	
11 St Thomas Rest Park	1.93	
12 Mitchell / Albany St Plaza	0.13	
13 Hume St Park Embellishment	0.24	●
14 Ernst Place	0.34	
15 Cahill Park	0.03	
16 Hayberry St	0.04	
17 Christie St Reserve	0.14	
18 Lithgow St	0.05	
19 Newlands Park	1.01	
20 Berry Rd	0.04	
21 Propsting Playground	0.09	
22 Portview Road Reserve	0.08	
23 Reserve Road (RNSH)	0.54	
24 Taylor Ln	0.22	●
25 Punch St	0.44	●
Total Existing within the boundary	12.70	
26 Thompson Park	1.65	●
27 Parkes Road Reserve	0.32	●
28 Artarmon Park	1.01	●
29 Naremburn Park	3.42	●
30 Naremburn Community Garden	0.03	●
31 Mafeking Ave	0.06	●
32 Coronation View Point	0.37	●
33 Ronald Park	0.36	●
34 Smoothery Park	0.42	●
35 Wollstonecraft Recreation Club	0.25	●
37 Newlands Reserve	0.18	●
38 Hazelbank Rd	0.10	●
39 Pacific Hwy	0.13	●
Total Existing 200m walking from Bdy	8.31	
Previously Proposed Open Space	Ha	
40 16-24, Park Rd (LCC)	0.17	●
41 19-25, Berry Rd (LCC)	0.17	●
42 13 Holdsworth Ave (LCC)	0.11	●
43 18 Holdsworth Ave (LCC)	0.12	●
44 10-12, Marshall Ave (LCC)	0.15	●
45 2-8, Marshall Ave (LCC)	0.44	●
46 30-32, Berry road (LCC)	0.07	●
47 29-31, Holdsworth Ave (LCC)	0.06	●
48 27 Holdsworth Ave (LCC)	0.05	●
49 33 Canberra Ave (LCC)	0.04	●
51 Mitchell St Linear Park (NSC)	0.20	●
52 Oxley St Linear Park (NSC)	0.07	●
53 Oxley St Linear Park (NSC)	0.04	●
54 Oxley St Linear Park (NSC)	0.07	●
55 St Leonards Plaza - West (LCC)	0.30	●
56 101-111, Willoughby Rd	0.05	●
57 Hume St Park extension (DPE)	0.79	●
58 Ernest St / Alexander St	0.07	●
59 Holtermann St / Hospital Ln (NSC)	0.16	●
60 Willoughby Rd South (NSC)	0.17	●
61 Friedlander Place (LCC)	0.15	●
Total already proposed	3.53	
Newly Proposed Open Space	Ha	
50 St Leonards Central (OSAP)	0.38	●
64 Platform Park	0.91	●
Total Proposed Open Space	0.96	
Linear Parks	Ha	
65 Hotham Parade 20-96	0.48	●
66 Clarendon St	0.45	●
67 Herbert St	1.04	●
68 Westbourne St	0.26	●
69 Lithgow St	0.44	●
Total Linear Parks	2.68	
Green Rooftop	Ha	
70 2-4 Herbert St	1.40	●
Total Green Rooftop	1.40	
Total Newly Proposed	5.04	
Total Proposed	8.57	
TOTAL OPEN SPACE	29.58	

Committed Initiative	●
Initiatives for Investigation	●
Visionary Initiatives	●

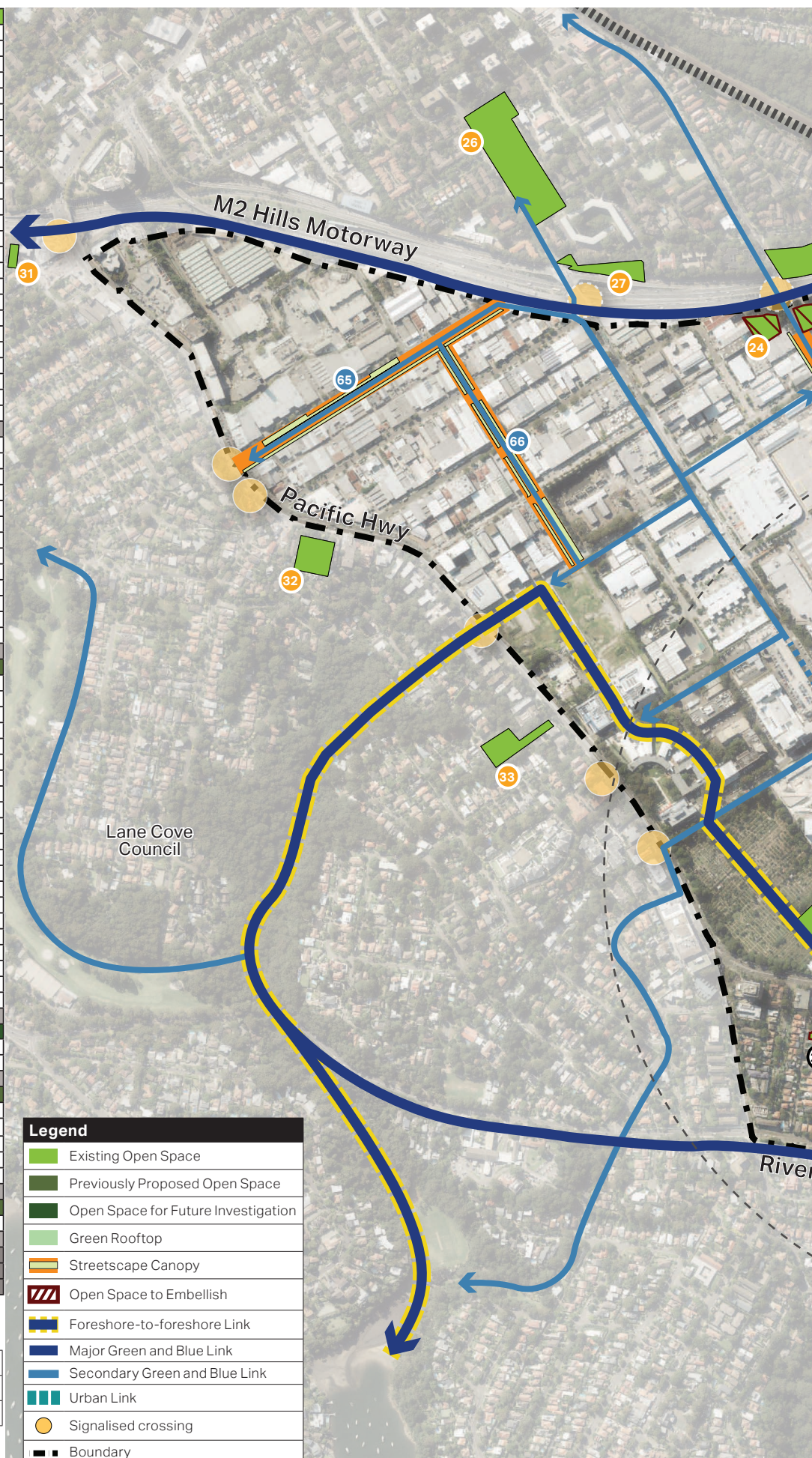
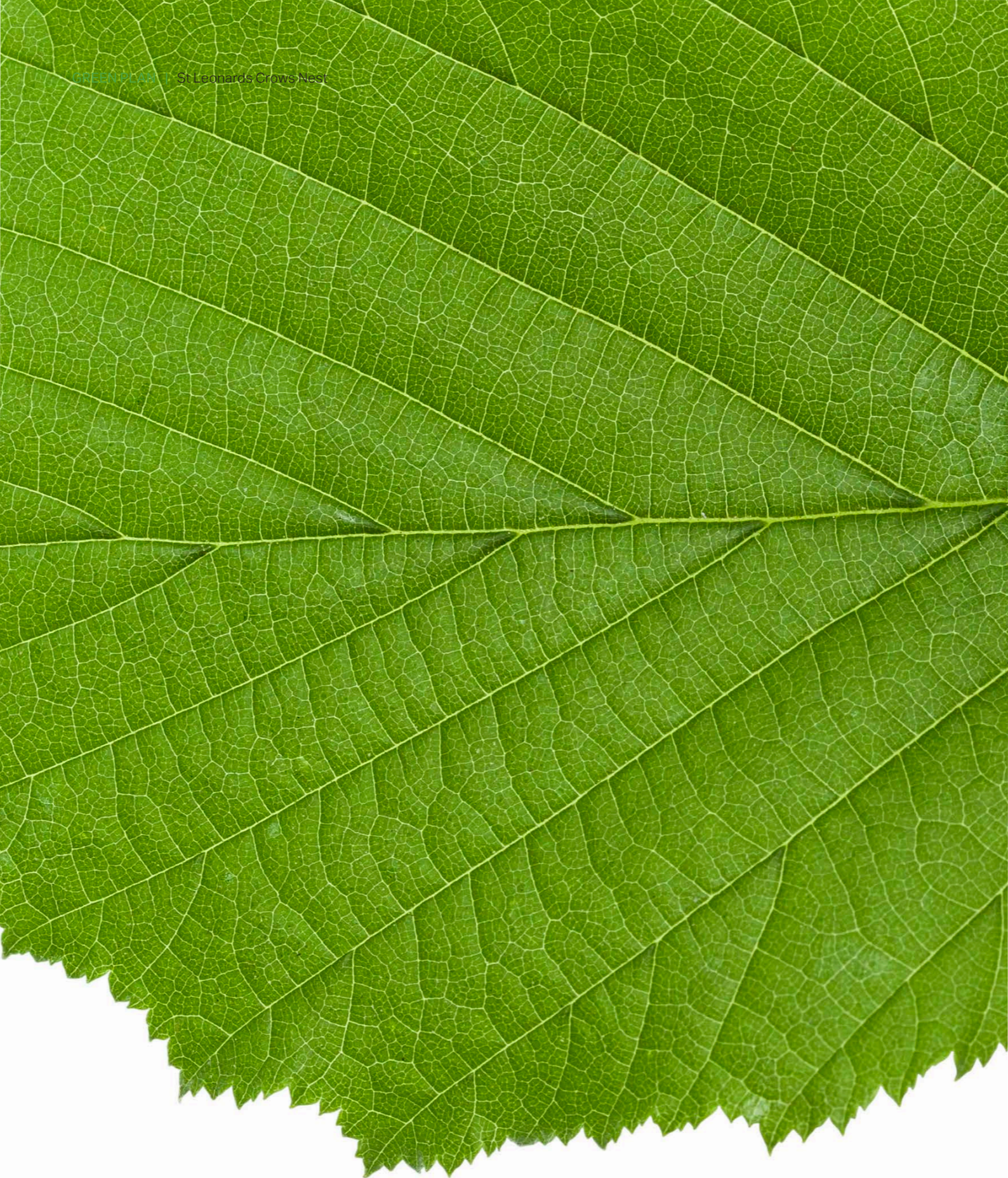


Figure 9: Open Space Plan (Source: AECOM, 2018)





5.3 WALKABILITY TO OPEN SPACE

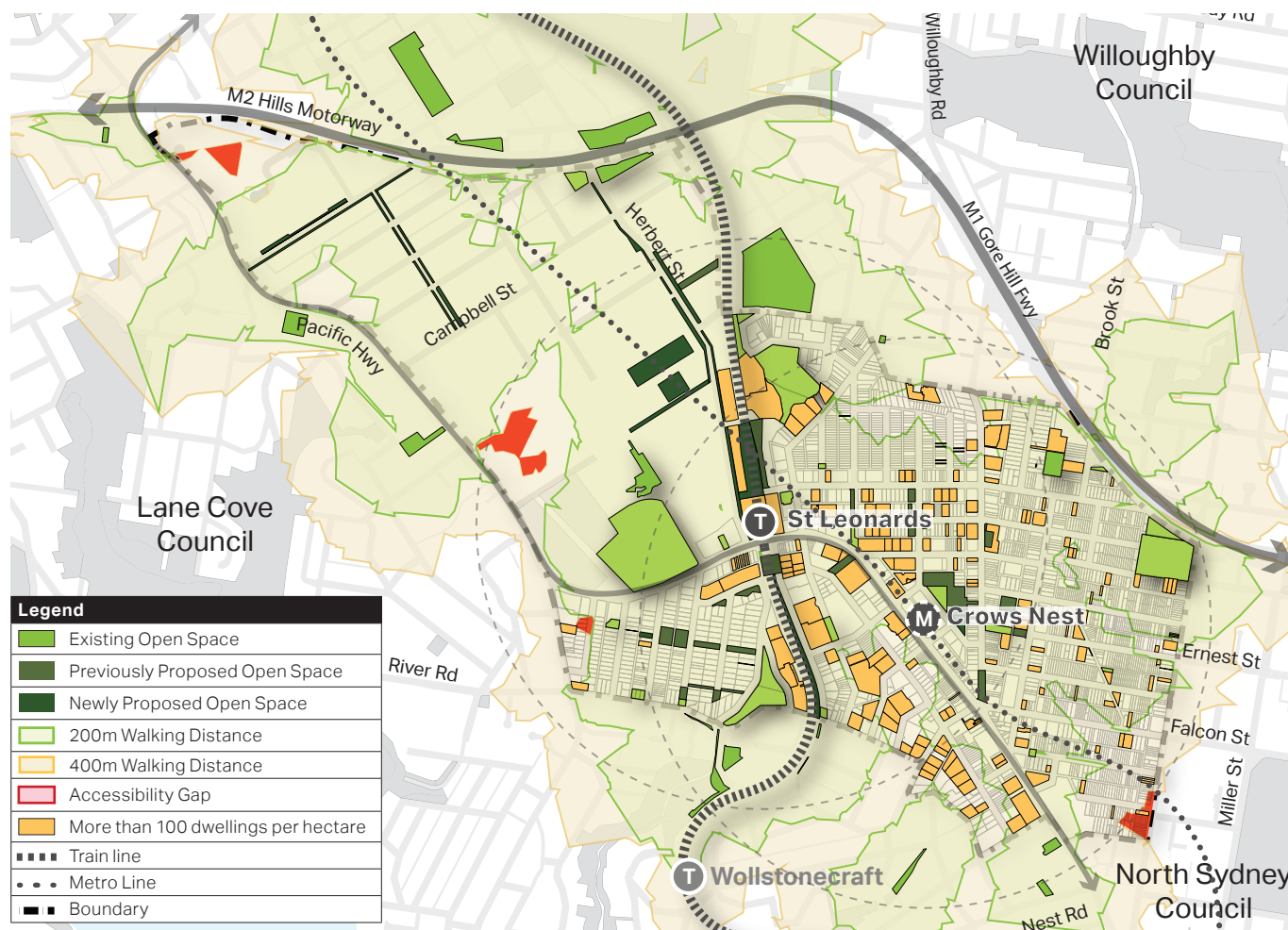


Figure 10: Accessibility to Open Space (Source: AECOM, 2018)

Good accessibility to open space is a key requirement to maximise the use of parks and efficient utilisation by the neighbouring community. The proposed Open Space Plan proposes improved accessibility to open space.

The southern portion of the area already had good accessibility to open space due to a network of green pocket areas. The improved access to open space in the northern industrial area will provide workers opportunities to use open space during lunch time and after work.

5.4 URBAN TREE CANOPY PLAN - PUBLIC DOMAIN

The Urban Tree Canopy Plan responds to the shortfall of urban tree canopy cover in the study area. While the Urban Tree Canopy Plan focuses on urban tree canopy in the public domain, it must be noted that the private domain also plays a significant role in contributing to the overall urban tree canopy targets of 15% for Industrial areas, 25% for Urban areas, 40% for Suburban areas and 25% for Heritage Residential areas. .

The Urban Tree Canopy Plan takes into account the proposed changes to land uses and development controls. In any new open spaces, the Urban Tree Canopy Plan applies the average of urban tree canopy of existing open spaces.

In order to identify the number of additional new trees required to meet the proposed targets, the Urban Tree Canopy Plan makes the following assumptions:

- All new rows of trees assume a 5 metre radius tree canopy, resulting in a canopy cover of 78.5 sqm per tree and a planting distance of 12 metres between one tree and the next.
- No additional trees within roads with a Right of Way less than 5.5 metres.
- One row of trees within all the roads with a Right of Way included between 5.5 and 8.5 metres.
- Two rows of trees within all the roads with a Right of Way greater than 8.5 metres.

- Three rows of trees within the proposed major blue and green links.
- The urban tree canopy coverage over all the existing open space will be implemented to achieve a minimum 45% of the site as per the existing average.
- All proposed new open spaces will be counted with an average urban tree canopy site coverage of 45%, as per the average urban tree canopy coverage over previous case studies.
- 12 metre planting distance will not necessary reflect the actual planting distance. This number has been adopted as a conservative average distance able to accommodate possible site-specific issues such as private lot driveway entrance, bus stop, facilities box and others factors.

Using these assumptions, the Urban Tree Canopy Plan achieves:

- 16% canopy coverage within the industrial area, adding a total of 1,083 trees.
- 25.7% canopy coverage within the urban area adding a total of 640 trees.
- 32.7% canopy coverage within the Heritage Residential area, adding a total of 315 trees.
- A total amount of 2,038 additional trees

	INDUSTRIAL	URBAN	HERITAGE	TOTAL
Land Area (ha)	84.71 ha	143.03 ha	44.13 ha	271.9 ha
Existing Tree Canopy over Private Land (ha)	3.30 ha	18.47 ha	7.11 ha	28.9 ha
Existing Tree Canopy on Roads (ha)	1.74 ha	8.76 ha	3.89 ha	14.4 ha
Maximum Tree Canopy on Roads (ha)	9.10 ha	11.99 ha	6.36 ha	27.5 ha
Additional Tree Canopy on Roads (ha)	7.35 ha	3.23 ha	2.47 ha	13.1 ha
Trees added on Roads	936 trees	411 trees	315 trees	1662 trees
Tree Canopy on Existing Open Spaces (ha)	0.14 ha	4.60 ha	0.94 ha	5.7 ha
Tree Canopy on New Open Space (ha)	1.16 ha	1.80 ha	none	2.96 ha
Trees added on New Open Spaces	147 trees	229 trees	none	476 trees
Total Additional Tree Canopy (ha)	8.51 ha	5.03 ha	2.47 ha	16.01 ha
Total Trees added	1,083 trees	640 trees	315 trees	2,038 trees
Overall Tree Canopy (ha)	13.69 ha	36.86 ha	14.41 ha	64.96 ha
Overall Tree Canopy (%)	16%	25.7%	32.7%	23.8%
Tree Canopy Target (%)	15%	25%	25%	n/a

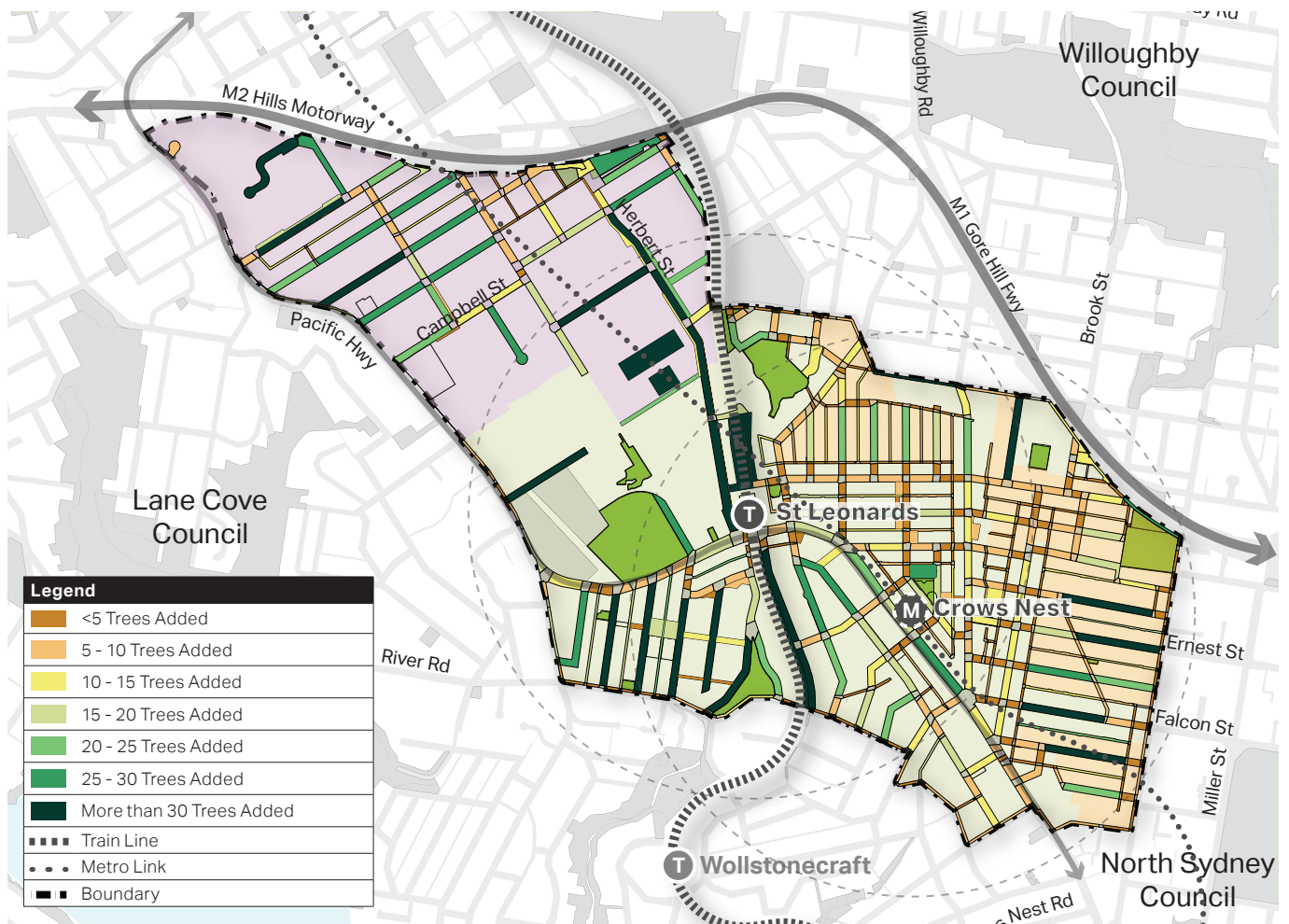


Figure 11: Tree Canopy Plan (Source: AECOM, 2018)