APPENDIX A

STREETS & OPEN SPACE ATTRIBUTES

STREET ATTRIBUTES: OPPORTUNITIES & CONSTRAINTS

Attribute	How might the attribute impact ability to deliver tree canopy?
Council owned road	Whether CoPP can take a responsibility role or play an advocacy role in delivery.
Whether there is an existing process underway to masterplan street	Whether the UFPP defers to a separate planning or implementation process to deliver canopy.
Street proximity to an activity centre	People are more likely to choose walking in these streets, therefore it is more important to ensure a comfortable pedestrian environment with ample shading.
Whether street is designated cycling route	People are more likely to cycle in these streets due to the improve cycle amenity, therefore it is more important to ensure a comfortable cycling environment with ample shading.
Street has public transport stops (tram or bus)	Waiting areas and transport shelters located along the kerbside reduces space for planting trees.
Walk Quality Scores	The Walk Quality analysis by Swinburne University ties into the movement network by illustrating where there are gaps in the provision of shade for walking catchments from key activity nodes, thus identifying the priority streets for shade improvements. These priority Walk Quality streets were identified as: Alma Rd, Nelson St, Camden St, Glen Eira Ave, Oak Grove, William St, Inkerman St and Carlisle St as a high priority, with Landsdowne Rd, Westbury St, Marlborough St, Rosamond St and Nightingale St as medium priority streets to improve walkability.
Heat vulnerability	The heat vulnerability assessment is to identify areas where we might expect high vulnerability to heat waves. The map shows areas with higher UHI relative to baseline; in combination with selected land cover attributes and demographic characteristics.

STREET ATTRIBUTES TABLE

The following street attributes have been gathered for the streets of St Kilda and St Kilda West. This information does not contribute to priority scoring:

1. **Road name**

2. **Street type**
   As identified in Chapter 4.

3. **Implementation focus**
   Whether Council deems the street a primary focus, secondary focus, operational focus of for future consideration. *(This information will be included in the final Urban Forest Precinct Plan)*

4. **Walk Quality Priority**
   As determined by the Swinburne Walk Quality assessment.

5. **Canopy cover (%)**
   Percent of canopy cover of streets as determined in GIS.

6. **Existing canopy cover**
   0-15% is considered LOW, 15-30% is considered MEDIUM and over 30% is considered HIGH.

7. **Powerlines**
   Are there powerlines present? Yes (Y) or No (N).

8. **Number of traffic lanes**
   How many traffic lanes are there?

9. **Road width**
   Property boundary to property boundary, including footpaths

10. **Road area**
    Road are within neighbourhood m^2

11. **Footpath area**
    Footpath area within road easement m^2

12. **Percentage of road as footpath**

13. **Percentage of road not footpath**

14. **Carriageway width**
    % of road not footpath multiplied by road width

15. **Carriageway width by traffic lane**
    Number of traffic lanes multiplied by 3.3m

16. **Potential for intervention**
    Potential that there is surplus width in the road for interventions based off number of traffic lanes and street carriageway width.

17. **Vehicle crossovers**
    Are there regular vehicle driveways or crossovers? Yes (Y) or No (N)

18. **Parking 1**
    Unrestricted parking

19. **Parking 2**
    4 hour, 2.5 hour, 2 hour

20. **Parking 3**
    15min, 5min, 1hr, 10min, 30min

21. **Parking 4**
    Permit zone

22. **Parking 5**
    No parking, clearway, bus zone, loading zone, mail zone, taxi zone

The following street attributes contribute to the priority scoring (low, medium and high) and are scored accordingly:

23. **Street proximity to activity centres**
    Street is in 2 activity centres: 3 points
    Street is in 1 activity centre: 2 points
    Street is <400m distance from activity centre: 1 point
    Street is >400m distance from activity centre: 0 points

24. **Cycling infrastructure**
    Street is along Strategic Cycling Corridor (SCC): 3 points
    Street is along Principal Bike Network (PBN): 2 points
    Street is a bike corridor in CoPP's Integrated Transport Strategy: 1 point

25. **Road ownership**
    Street is a council owned road: 2 points
    Street is not a council owned road: 0 points

26. **Public transport**
    Street has a tram and bus stop: 3 points
    Street has a tram or bus stop: 2 points
    Street has neither tram nor bus stop: 0 points

27. **Heat vulnerability**
    Lowest heat vulnerability (0-1): 0 points
    Low heat vulnerability (2): 1 point
    Medium heat vulnerability (3): 2 points
    High heat vulnerability (4): 3 points

28. **Urban Heat Island (UHI)**
    Low UHI (0-5): 0 points
    Medium UHI (5-7.5): 2 points
    High UHI (7.5-10): 3 points

29. **Council Strategy**
    Street referenced in Council Strategy/Master Plan: 2 points
    Street not referenced in Council Strategy/Master Plan: 0 points

30. **Street biodiversity connections**
    Connects to foreshore dune areas: 5 points
    <100m from the foreshore: 3 points
    Abuts two or more open spaces: 2 points
    Abuts an open space: 1 point
    Does not abut an open space: 0 points

Numbers correspond to their description on the previous page. The following abridged table is an example of how the information has been presented in this chapter.

Streets marked with an asterisk are streets that had insufficient data to calculate attributes and are therefore blank in those columns. This is often due to a street being informal (e.g. a trail), streets with no road casement or pathways (e.g. laneways) or larger roads where only a small portion of the full length of road sits within the precinct boundary.

Note: NDA - No Data Available

1 Road Name	2 Street Type	3 Implementation Focus	4 Walk Quality Street Priority	5 Canopy Cover (%)	6 Canopy Cover Level	7 Powerlines	8 Number of Traffic Lanes	9 Road Width	10 Road Area (m^2)	11 Footpath Area (m^2)	12 % of road as footpath	13 % of road not footpath	14 Carriageway width	15 Carriageway with by lanes	16 Potential for intervention	17 Vehicle crossovers	18 Parking 1	19 Parking 2	20 Parking 3	21 Parking 4	22 Parking 5	23 Activity Centres	24 Cycling	25 Council Road	26 Public Transport	27 Heat Vulnerability	28 Urban Heat Island	29 Strategic support	30 Biodiversity connections	**Total score**
ARMSTRONG ST	Green Street	*To be included in Final UFPP*	High	47.69	HIGH	Y	2	30.19	12698	3550.91	27.96	72.03	21.74	15.14	Y	N	1.46	0.00	94.96	0.54	3.04	1	2	2	3	1	2	2	3	16
BEACONSFIELD PDE	Foreshore Boulevard	"	High	13.26	LOW	N	5	32.6	130955	31801.65	24.28	75.71	24.68	8.18	Y	N	55.90	25.45	4.71	7.04	6.90	2	2	0	0	2	2	0	3	11
SEISMAN PL*	Access Laneway	"	-																			1	0	0	0	1	2	0	0	4

STREET INFORMATION

Street information columns do not contribute to total score

PRIORITY SCORING

Priority scoring columns contribute to total score

High Priority	12-16
Medium Priority	8-12
Low Priority	0-8

Road Name	Street Type	Implementation Focus	Walk Quality Street Priority	Canopy Cover (%)	Canopy Cover Level	Powerlines	Number of Traffic Lanes	Road Width	Road Area (m^2)	Footpath Area (m^2)	% of road as footpath	% of road not footpath	Carriageway width	Carriageway with by lanes	Potential for intervention	Vehicle crossovers	Parking 1	Parking 2	Parking 3	Parking 4	Parking 5	Activity Centres	Cycling	Council Road	Public Transport	Heat Vulnerability	Urban Heat Island	Strategic support	Biodiversity connections	Total score
ARMSTRONG ST	Green Street	*To be included in Final UFPP*	High	47.69	HIGH	Y	2	30.19	12698	3550.91	27.96	72.03	21.74	15.14	Y	N	1.46	0.00	94.96	0.54	3.04	1	2	2	3	1	2	2	3	16
ASHWORTH ST	Access Laneway	"	-	8.42	LOW	Y	1	9.6	12506	1811.52	14.48	85.51	8.20	4.90	N	Y	0.00	0.00	90.73	9.27	0.00	2	0	2	0	2	3	0	3	12
AUGHTIE DR*	Unique Street	"	-																			2	3	2	0	1	3	0	0	11
BARRETT LN	Access Laneway	"	-	0	LOW	N	1	3.96	742	NA	NA	NA	NA	NA	NA	N	2.82	33.79	63.39	0.00	0.00	2	0	2	0	2	2	0	0	8
BARRETT ST	Green Street	"	-	78.25	HIGH	Y	2	30.16	7804	885.71	11.34	88.65	26.73	20.13	Y	N						1	0	2	0	2	2	0	1	8
BEACONSFIELD LN	Access Laneway	"	-	0	LOW	Y	1	4.26	1168	NA	NA	NA	NA	NA	NA	Y						1	0	2	0	1	3	0	3	10
BEACONSFIELD PDE	Foreshore Boulevard	"	High	13.26	LOW	N	5	32.6	130955	31801.65	24.28	75.71	24.68	8.18	Y	N	55.90	25.45	4.71	7.04	6.90	2	2	0	0	2	2	0	3	11
BEVAN ST	Narrow Street	"	-	31.69	HIGH	Y	1	30.2	3250	1135.24	34.93	65.06	19.65	16.35	Y	Y	3.91	3.63	92.46	0.00	0.00	2	0	2	0	1	3	0	0	8
BLEAKHOUSE LN	Access Laneway	"	-	0	LOW	Y	1	6.01	915	377.32	41.23	58.76	3.53	0.23	N	Y	0.00	0.00	0.00	0.00	100.00	2	0	2	0	1	2	0	3	10
BOYD ST	Typical Street	"	High	44.13	HIGH	Y	2	20.68	7524	1346.95	17.90	82.09	16.97	10.37	Y	Y	37.10	0.00	62.90	0.00	0.00	0	0	2	0	1	2	0	0	5
BRIDPORT ST	High Street	"	-	20.8	MEDIUM	Y	2	29.89	13261	4919.32	37.09	62.90	18.80	12.20	Y	N	3.33	6.86	85.45	0.00	4.37	2	0	2	2	1	3	2	0	12
BRIDPORT ST WEST	Green Street	"	-	43.5	HIGH	Y	2	29.91	14113	1997.13	14.15	85.84	25.67	19.07	Y	N	22.25	76.61	0.00	0.00	1.15	2	0	2	0	1	3	2	1	11
BROOKE ST	Narrow Street	"	-	18.88	MEDIUM	Y	1	11.3	1049	282.41	26.92	73.07	8.25	4.95	N	N	0.00	0.00	100.00	0.00	0.00	2	0	2	0	1	2	0	0	7
CAMERON PL	Access Laneway	"	-	0	LOW	Y	1	3.85	536	NA	NA	NA	NA	NA	NA	Y						2	0	2	0	1	2	0	3	10
CANTERBURY RD	Moderate Movement Corridor	"	High	37.11	HIGH	Y	4	29.51	56294	6858.3	12.18	87.81	25.91	12.71	Y	N	14.51	75.04	9.47	0.00	0.97	2	2	0	3	1	2	0	2	12
CANTERBURY PL	Micro Street	"	-	9.78	LOW	Y	1	10.3	9124	1819.26	19.93	80.06	8.24	4.94	N	Y	37.24	0.00	0.00	62.76	0.00	0	0	2	0	1	2	0	0	5
CARDIGAN PL	Green Street	"	-	46.34	HIGH	Y	2	30.5	7932	1060.33	13.36	86.63	26.42	19.82	Y	N	33.61	52.10	13.11	1.18	0.00	2	0	2	0	1	3	2	2	12
CARTER ST	Narrow Street	"	-	34.99	HIGH	Y	1	9.92	7071	1603.65	22.67	77.32	7.67	4.37	N	Y	88.78	0.00	11.22	0.00	0.00	2	0	2	0	1	3	0	2	10
COLLEGE PL	Micro Street	"	-	0	LOW	N	1	6.13	717	224.94	31.37	68.62	4.20	0.90	N	Y						2	0	2	0	1	2	0	0	7
COWDEROY PL	Typical Street	"	-	NDA	NDA	N	2	3.6	NDA	NDA	NDA	NDA	NDA	NDA	NA	Y	0.00	100.00	0.00	0.00	0.00	0	0	2	0	1	2	0	0	5
COWDEROY S	Movement Street	"	-	38.79	HIGH	Y	2	30	10888	921.21	8.46	91.53	27.46	20.86	Y	Y	67.60	11.33	0.00	21.07	0.00	0	0	2	0	0	2	2	5	11
COWIE LN	Micro Street	"	-	0	LOW	Y	1	6.11	460	230.5	50.10	49.89	3.048	-0.25	N	Y						2	0	2	0	2	2	0	0	8
DANKS ST	Movement Street	"	High	45.73	HIGH	Y	2	40.56	61788	6847.51	11.08	88.91	36.06	29.46	Y	N	9.63	0.14	70.21	17.74	2.28	2	0	2	3	2	3	0	2	14
DANKS S WEST*	Movement Street	"	-																			1	0	2	0	2	2	0	0	7
DINSDALE ST	Micro Street	"	-	35.25	HIGH	Y	2	20.29	5588	649.19	11.61	88.38	17.9	11.33	Y	N	0.00	43.40	50.79	4.54	1.27	2	0	2	0	1	3	0	0	8
DUNDAS LANE	Access Laneway	"	-	0	LOW	N	1	6	1428	233.33	16.33	83.66	5.019	1.71	N	Y	0.00	0.00	0.00	0.00	100.00	2	0	2	0	1	3	0	0	8
DUNDAS PL	Green Street	"	-	40.46	HIGH	Y	2	29.94	10174	2045.57	20.10	79.89	23.92	17.32	Y	N	1.46	21.94	59.40	17.20	0.00	2	0	2	0	1	2	0	2	9
DURHAM ST	Typical Street	"	-	47.28	HIGH	Y	2	19.95	3016	429.65	14.24	85.75	17.10	10.50	Y	N	100.00	0.00	0.00	0.00	0.00	2	0	2	0	1	2	0	0	7
ERSKINE ST	Narrow Street	"	-	15.53	MEDIUM	Y	1	10.27	9545	2090.64	21.90	78.09	8.02	4.72	N	N	74.38	20.77	4.05	0.00	0.79	2	0	2	0	1	2	0	0	7
FAUSSETT LN	Access Laneway	"	-	6.47	LOW	Y	1	6	881	284.46	32.28	67.71	4.06	0.76	N	Y						1	0	2	0	1	2	0	0	6
FAUSSETT ST	Green Street	"	-	34.23	HIGH	Y	2	20.02	2626	606.35	23.09	76.90	15.39	8.79	Y	N	2.19	0.00	97.81	0.00	0.00	2	0	2	0	1	3	0	0	8
FINLAY ST	Typical Street	"	-	49.72	HIGH	Y	2	20.13	6163	1024.88	16.62	83.37	16.78	10.18	Y	N	1.21	44.27	54.53	0.00	0.00	2	0	2	0	1	2	0	0	7
FOOTE LANE	Access Laneway	"	-	0	LOW	N	1	6.06	480	NA	NA	NA	NA	NA	NA	Y						1	0	2	0	1	2	0	0	6
FOOTE ST	Typical Street	"	-	21.22	MEDIUM	Y	2	29.5	4336	1038.37	23.94	76.05	22.43	15.83	Y	N	25.13	9.25	65.62	0.00	0.00	2	1	2	0	1	2	2	3	13
FRASER ST	Green Street	"	Moderate	34.08	HIGH	Y	2	29.91	10887	1636.5	15.03	84.96	25.41	18.81	Y	Y	10.00	21.41	68.59	0.00	0.00	0	0	2	3	1	3	0	3	12
GATEHOUSE LN	Micro Street	"	-	9.57	LOW	N	1	10.5	1704	618.07	36.27	63.72	6.69	3.39	N	Y	5.95	0.00	94.05	0.00	0.00	2	0	2	0	1	2	0	0	7
GRAHAM ST	Green Street	"	-	57.17	HIGH	Y	5	29.8	12191	2022.82	16.59	83.40	24.85	8.35	Y	Y	41.02	0.00	57.38	0.00	1.60	3	0	2	2	2	2	0	2	13
GRAY LANE	Access Laneway	"	-	4.37	LOW	Y	1	6.12	1396	409.47	29.33	70.66	4.32	1.02	N	Y	9.02	0.00	0.00	90.98	0.00	2	0	2	0	1	2	0	0	7
GREIG ST	Typical Street	"	-	59.69	HIGH	Y	2	20.35	4932	649.15	13.16	86.83	17.67	11.07	Y	N	94.49	0.00	5.51	0.00	0.00	2	0	2	0	1	2	0	0	7
HAMBLETON ST	Green Street	"	-	63.3	HIGH	Y	2	30.24	19906	2091.99	10.50	89.49	27.06	20.46	Y	N	100.00	0.00	0.00	0.00	0.00	2	0	2	0	1	3	0	2	10
HAROLD ST	Green Street	"	-	49.69	HIGH	Y	2	30.37	16757	2784.16	16.61	83.38	25.32	18.72	Y	N	74.52	0.00	25.48	0.00	0.00	2	0	2	2	1	2	0	3	12
HERBERT PL	Micro Street	"	-	10.86	LOW	Y	2	10.3	1335	495.18	37.09	62.90	6.47	-0.12	N	Y	3.08	96.92	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6
HERBERT ST	Green Street	"	-	46.85	HIGH	Y	2	30.02	10968	1456.56	13.28	86.71	26.03	19.43	Y	N	0.64	99.36	0.00	0.00	0.00	2	0	2	0	1	2	0	0	7
JOHNSON LN	Access Laneway	"	-	0	LOW	N	1	3.09	383	NA	NA	NA	NA	NA	NA	N						2	0	2	0	1	2	0	0	7
KERFERD LN	Access Laneway	"	-	0	LOW	N	1	5.97	668	243.24	36.413	63.58	3.79	0.49	N	Y						1	0	2	0	1	2	0	0	6
KERFERD RD	Unique Street	"	High	30.9	HIGH	Y	4	60.3	60004	6980.86	11.63	88.36	53.28	40.08	Y	N	6.37	22.45	69.12	0.51	1.55	2	1	2	0	1	2	2	3	13
KERFERD PL	Typical Street	"	-	30.86	HIGH	Y	2	20.02	3380	512	15.14	84.85	16.98	10.38	Y	Y	2.60	0.00	97.40	0.00	0.00	1	0	2	0	1	2	0	1	7

Road Name	Street Type	Implementation Focus	Walk Quality Street Priority	Canopy Cover (%)	Canopy Cover Level	Powerlines	Number of Traffic Lanes	Road Width	Road Area (m^2)	Footpath Area (m^2)	% of road as footpath	% of road not footpath	Carriageway width	Carriageway with by lanes	Potential for intervention	Vehicle crossovers	Parking 1	Parking 2	Parking 3	Parking 4	Parking 5	Activity Centres	Cycling	Council Road	Public Transport	Heat Vulnerability	Urban Heat Island	Strategic support	Biodiversity connections	Total score
LANGRIDGE ST	Typical Street	*To be included in Final UFPP*	Moderate	32.39	HIGH	Y	2	30.37	11269	1612.25	14.30	85.69	26.02	19.42	Y	N	51.90	35.68	12.42	0.00	0.00	2	0	2	2	1	2	0	3	12
LAUREATE LN*	Access Laneway	"	-																			2	0	2	0	1	2	0	1	8
LITTLE FINLAY ST	Access Laneway	"	-	9.98	LOW	Y	1	6.1	852	320.08	37.56	62.43	3.80	0.50	N	Y	100.00	0.00	0.00	0.00	0.00	2	0	2	0	1	2	0	0	7
LITTLE GRAHAM ST	Micro Street	"	-	23.55	MEDIUM	N	2	10.32	2930	852.59	29.09	70.90	7.31	0.71	N	Y	79.34	0.00	20.66	0.00	0.00	2	0	2	0	2	2	0	0	8
LITTLE GREIG ST	Access Laneway	"	-	0	LOW	N	1	6.03	1204	365.08	30.32	69.67	4.20	0.90	N	Y	0.00	0.00	0.00	0.00	0.00	2	0	2	0	1	2	0	0	7
LITTLE MERTON ST	Access Laneway	"	-	0	LOW	N	1	5.95	2016	614.83	30.49	69.50	4.13	0.83	N	Y	100.00	0.00	0.00	0.00	0.00	2	0	2	0	1	2	0	0	7
LITTLE OGRADY ST	Access Laneway	"	-	3.9	LOW	N	1	6.38	1923	570.06	29.64	70.35	4.48	1.18	N	Y	0.00	100.00	0.00	0.00	0.00	2	0	2	0	1	2	0	0	7
LITTLE PAGE ST	Access Laneway	"	High	1.91	LOW	N	2	6.55	8685	190.84	2.19	97.80	6.40	-0.19	N	Y	33.95	0.00	50.04	16.02	0.00	2	0	2	0	1	3	0	2	10
LITTLE VINCENT ST	Access Laneway	"	-	0	LOW	N	1	5.9	1557	540.31	34.70	65.29	3.85	0.55	N	Y						1	0	2	0	1	2	0	0	6
LITTLE WITHERS ST	Micro Street	"	-	0	LOW	N	2	6.26	272	53.32	19.60	80.39	5.03	-1.56	N	1						1	0	2	0	1	2	0	0	6
LONGMORE ST	Green Street	"	-	51.5	HIGH	Y	2	20.07	5241	1004.28	19.16	80.83	16.22	9.62	Y	Y	100.00	0.00	0.00	0.00	0.00	0	0	2	0	1	2	0	1	6
MADDEN ST	Typical Street	"	-	34.91	HIGH	Y	2	19.97	6176	1348.32	21.83	78.16	15.61	9.01	Y	Y	0.00	30.66	0.00	69.34	0.00	1	0	2	0	1	2	0	0	6
MCFARLANE LN	Access Laneway	"	-	0	LOW	N	1	6.05	684	295.47	43.19	56.80	3.43	0.13	N	Y	0.00	0.00	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6
MCGREGOR ST	Typical Street	"	High	40.71	HIGH	Y	2	30.29	13712	2028.79	14.79	85.20	25.80	19.20	Y	Y	0.00	51.47	48.53	0.00	0.00	1	0	2	0	1	2	0	3	9
MERTON ST	Green Street	"	-	35.45	HIGH	Y	2	30.12	15197	3027.66	19.92	80.07	24.11	17.51	Y	N	0.00	0.00	100.00	0.00	0.00	2	0	2	0	1	3	0	0	8
MERTON PL	Narrow Street	"	-	50.38	HIGH	Y	1	9.96	1066	421.9	39.57	60.42	6.01	2.71	N	N	100.00	0.00	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6
MILLS ST	High Street	"	High	34.32	HIGH	Y	4	30.23	20076	4220.4	21.02	78.97	23.87	10.67	Y	Y	45.19	6.04	38.50	3.74	6.52	0	0	2	3	2	2	2	3	14
MONTAGUE LN	Access Laneway	"	-	4.88	LOW	N	1	6.34	164	NA	NA	NA	NA	NA	NA	Y						2	0	2	0	1	2	0	0	7
MONTAGUE ST	Green Street	"	-	32.38	HIGH	Y	2	29.89	10145	2730.53	26.91	73.08	21.84	15.24	Y	N	3.30	0.00	87.61	6.99	2.10	2	0	2	0	1	2	2	0	9
MOUBRAY LN	Access Laneway	"	-	1.16	LOW	N	1	6.14	1032	290.13	28.11	71.88	4.41	1.11	N	Y	0.00	0.00	0.00	0.00	100.00	1	0	2	0	1	2	0	0	6
MOUBRAY ST	Green Street	"	-	42.95	HIGH	Y	2	30.95	11950	2254.59	18.86	81.13	25.11	18.51	Y	Y	19.21	14.05	65.77	0.00	0.98	1	0	2	0	1	3	2	2	11
NELSON RD*	Green Street	"	-																			1	0	2	0	1	2	0	0	6
NEVILLE ST	Narrow Street	"	-	23.1	MEDIUM	Y	2	10	15375	3287.44	21.38	78.61	7.86	1.26	N	N	96.25	0.00	0.00	3.75	0.00	1	0	2	0	1	2	0	1	7
NIMMO ST	Typical Street	"	Moderate	44.64	HIGH	Y	2	30.27	17285	2761.24	15.97	84.02	25.43	18.83	Y	N	49.81	26.42	23.07	0.00	0.71	1	0	2	2	1	3	0	3	12
O'GRADY ST	Typical Street	"	-	43.89	HIGH	Y	2	19.99	6532	1297.27	19.86	80.13	16.01	9.41	Y	Y	2.41	16.63	80.96	0.00	0.00	1	0	2	0	1	2	0	0	6
OLD AUGHTIE DR*	Unique Street	"	Moderate																			1	0	2	0	1	2	0	0	6
PAGE ST	Connector Boulevard	"	-	60.12	HIGH	Y	2	30.31	42253	4633.52	10.96	89.03	26.98	20.38	Y	Y	57.21	2.98	38.76	0.00	1.06	2	0	2	0	1	3	0	2	10
PARK LN*	Narrow Street	"	-																			1	0	2	2	1	0	0	3	9
PARK ST	Movement Street	"	-	51.23	HIGH	Y	4	20.41	6812	1064.41	15.62	84.37	17.22	4.02	N	N	74.79	0.00	19.95	0.00	5.26	1	0	2	3	1	2	0	0	9
PARK RD	Connector Boulevard	"	-	50.16	HIGH	Y	2	30.39	10964	1259.1	11.483	88.51	26.90	20.3	Y	N	100.00	0.00	0.00	0.00	0.00	0	0	2	3	1	2	0	3	11
PATTERSON ST	Movement Street	"	-	30.96	HIGH	Y	4	19.99	7273	1148.36	15.78	84.21	16.83	3.63	N	Y	1.66	0.00	92.27	0.00	6.07	0	0	2	2	1	2	0	0	7
PHILIPSON ST	Typical Street	"	Moderate	24.87	MEDIUM	Y	4	20.31	8739	1471.45	16.83	83.16	16.89	3.69	N	N	15.63	20.73	63.65	0.00	0.00	1	0	2	0	1	2	0	3	9
PICKLES ST	Moderate Movement Corridor	"	-	28.18	MEDIUM	Y	4	29.55	6280	1192.33	18.98	81.01	23.93	10.73	Y	N	60.97	0.00	31.60	0.00	7.43	1	0	2	2	1	2	0	5	13
REED LN	Access Laneway	"	-	0	LOW	Y	1	3.92	1963	NA	NA	NA	NA	NA	NA	Y						1	0	2	0	2	2	0	0	7
REED ST	Typical Street	"	-	42.67	HIGH	Y	2	20.95	9431	1122.6	11.90	88.09	18.45	11.85	Y	N	2.50	0.00	82.53	14.97	0.00	1	0	2	0	1	2	0	3	9
RICHARDSON ST	Green Street	"	-	58.16	HIGH	Y	2	30.13	64983	11458.26	17.63	82.36	24.81	18.21	Y	N	54.26	19.18	23.07	0.00	3.49	3	1	2	3	2	2	0	2	15
ROUSE ST*	Green Street	"	-																			1	0	2	0	1	2	0	0	6
SEISMAN PL*	Access Laneway	"	-																			1	0	0	0	1	2	0	0	4
SMITH ST	Narrow Street	"	-	32.82	HIGH	Y	2	12.19	2227	702.2	31.53	68.46	8.34	1.74	N	Y	100.00	0.00	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6
ST VINCENT ST	Green Street	"	-	37.44	HIGH	Y	4	39.7	8056	975.64	12.11	87.88	34.89	21.69	Y	N	93.15	6.85	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6
VICTORIA LN	Access Laneway	"	-	0	LOW	N	1	5.98	1137	417.1	36.68	63.31	3.786	0.48	N	Y	0.00	0.00	0.00	0.00	100.00	2	0	2	0	1	2	0	0	7
VICTORIA AVE	Movement Street	"	-	33.4	HIGH	Y	4	30.04	22051	6893.93	31.26	68.73	20.64	7.44	Y	N	11.14	23.75	59.80	2.37	2.94	3	0	2	0	1	3	0	3	12
WESTERN BIKE PATH*	Access Laneway	"	Moderate																			1	2	2	2	1	3	0	2	13
WITHERS ST	Typical Street	"	-	26.24	MEDIUM	Y	2	20.02	13192	2558.36	19.39	80.60	16.13	9.53	Y	N	16.23	6.23	70.84	2.13	4.57	1	0	2	0	2	2	0	3	10
WRIGHT ST	Typical Street	"	High	35.92	HIGH	Y	2	30.24	19621	3548.34	18.08	81.91	24.77	18.17	Y	N	65.38	0.00	32.73	1.90	0.00	0	0	2	3	1	3	0	3	12
YORK ST	Connector Boulevard	"	-	43.94	HIGH	Y	2	30.29	9744	1054.3	10.81	89.18	27.01	20.41	Y	Y	100.00	0.00	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6
YOUNG ST	Typical Street	"	-	41.17	HIGH	Y	2	20.2	4870	907.04	18.62	81.37	16.43	9.83	Y	Y	0.00	100.00	0.00	0.00	0.00	1	0	2	0	1	2	0	0	6

APPENDIX B

DESIGN TOOLKIT

TOOLKIT OVERVIEW

WHY CHOOSE A TOOLKIT APPROACH?

A toolkit of planting opportunities can be applied in various ways across the neighbourhood. The toolkit forms the base for further detailed design for each case dealing with site-specific conditions.

The toolkit provides:

- Streamlined approach for detailed design.
- Pre-approved approaches which have already undergone internal feedback and refinement.
- Standardised engineering specification drawings can be subsequently prepared.
- Flexibility to check multiple intervention options for feasibility.
- Ability for CoPP to expand the Toolkit with extra interventions as UFPPs are prepared for other neighbourhoods.
- A design framework so that any canopy opportunities from redevelopment of major sites can easily be identified by CoPP and capitalised upon by expediting the abutting streetscape detailed designs.

WHAT IS CONTAINED IN THIS TOOLKIT?

A table listing the different street types within the Albert Park & Middle Park Neighbourhood cross referenced with which Toolkit interventions may be considered based on typical existing conditions.

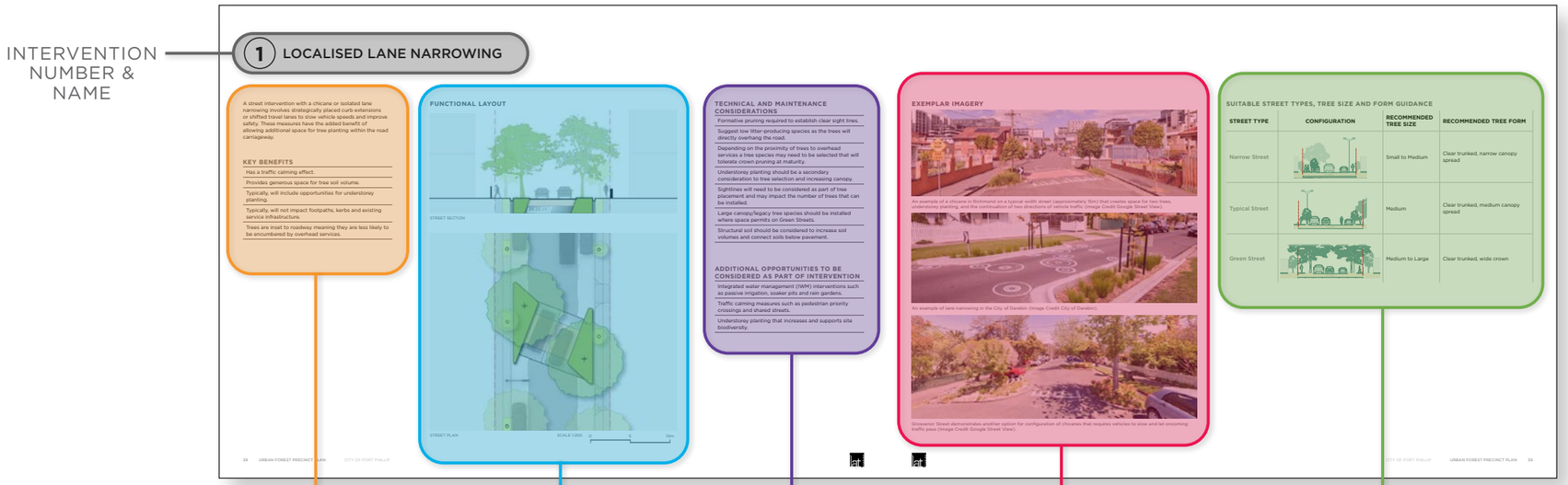
An explanation of the 8 Toolkit options including:

- A general overview of the intervention.
- Concept diagrams to help communicate the design intent.
- Consideration of the key concerns and advantages for each approach.
- General guidance of how tree form and sizing may be adjusted for each relevant street type.
- Supporting imagery where relevant.

Note: The UFPP outlines high level planting approaches. Each project will require detailed design to ensure site specific conditions are addressed.

Some streets will be specifically targeted for design interventions taken from this Toolkit, while others may be considered as part of other Council programs, such as water sensitive urban design, traffic safety initiatives, or when the arborist team decides upon a species change that might enable larger tree planting areas.

Figure 57: Example Toolkit intervention layout



DESIGN TOOLKIT

A Toolkit of planting opportunities can be applied in various ways across the neighbourhood, the table below outlines which street typologies these design interventions may be suitable for. The following pages provide more detail on each specific intervention.

CHOOSING A SUITABLE INTERVENTION BASED ON STREET TYPOLOGY

	1 **Localised Lane Narrowing**	2 **Corner Build-outs**	3 **Tree Containers & Temporary Greening**	4 **Protected Pedestrian Crossings**	5 **Kerb Outstands** (within road)	6 **Footpath Widening**	7 **Tree Cut Outs** (within footpath)	8 **Central Medians**
Access Laneways	⊘	⊘	☑	⊘	⊘	⊘	⊘	⊘
Micro Street	☑	☑	☑	⊘	☑	⊘	⊘	⊘
Narrow Street	☑	☑	☑	⊘	☑	☑	☑	⊘
Typical Street	☑	☑	☑	☑	☑	☑	☑	⊘
Green Street	☑	☑	⊘	⊘	⊘	⊘	⊘	⊘
Connector Boulevard	⊘	☑	⊘	☑	☑	⊘	⊘	☑
High Street	⊘	☑	☑	⊘	☑	⊘	⊘	⊘
Movement Corridors	Interventions for Movement Corridors will require advocacy with the Department of Transport and Planning.							
Unique Streets	Refer to implementation in Chapter 06 for guidance on these streets where relevant.							
Movement Street	⊘	☑	☑	⊘	☑	⊘	⊘	⊘
Foreshore Boulevard	⊘	☑	☑	⊘	☑	⊘	☑	☑

* Temporary Greening recommended only for Access Laneways

1 LOCALISED LANE NARROWING

A street intervention with a chicane or isolated lane narrowing involves strategically placed curb extensions or shifted travel lanes to slow vehicle speeds and improve safety. These measures have the added benefit of allowing additional space for tree planting within the road carriageway.

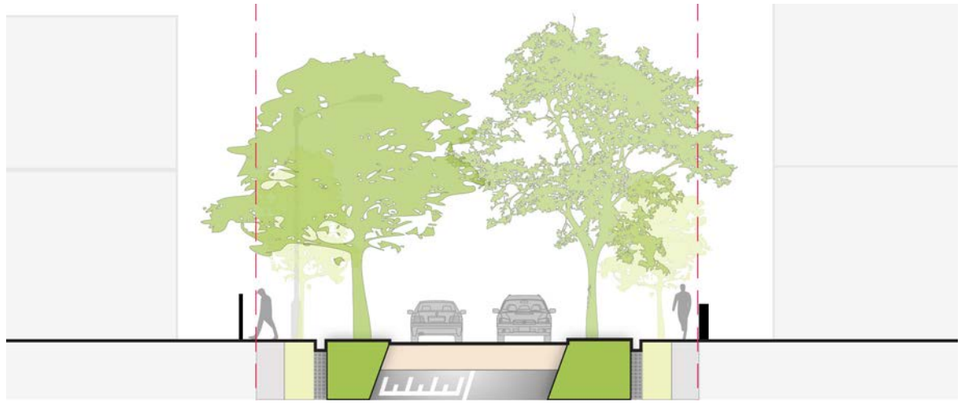
KEY BENEFITS

- Has a traffic calming effect.
- Provides generous space for tree soil volume.
- Typically, will include opportunities for understorey planting.
- Typically, will not impact footpaths, kerbs and existing service infrastructure.
- Trees are inset to roadway meaning they are less likely to be encumbered by overhead services.

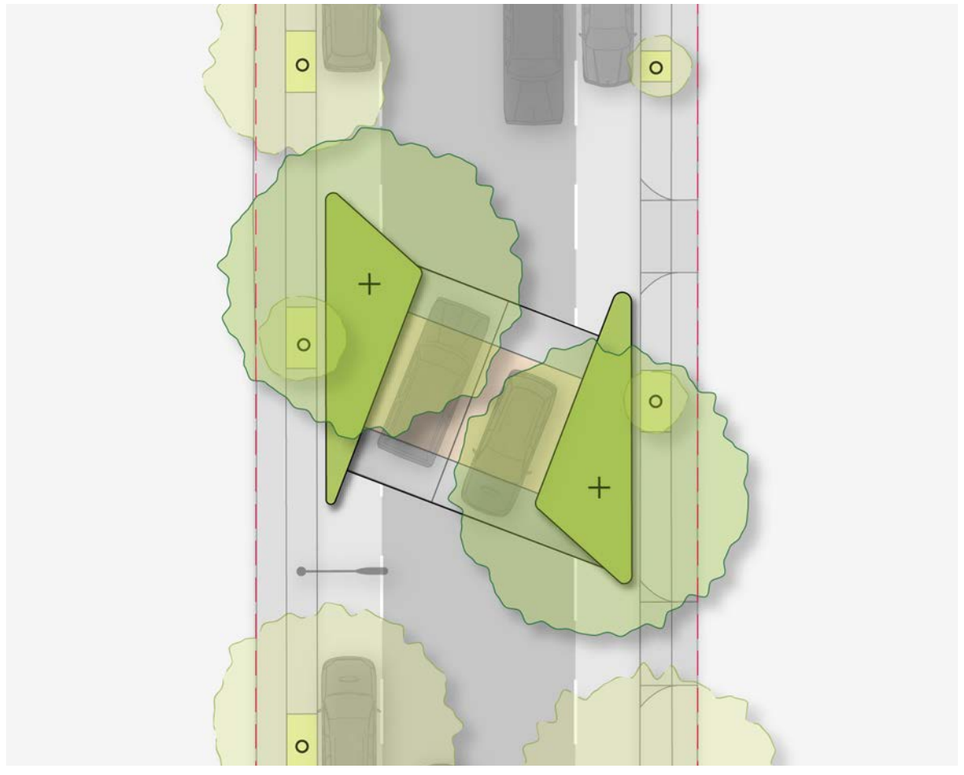


Figure 58: Highlighting all of the streets that are suitable for localised lane narrowing.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Formative pruning required to establish clear sight lines.
- Suggest low litter-producing species as the trees will directly overhang the road.
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Understorey planting should be a secondary consideration to tree selection and increasing canopy.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Large canopy/legacy tree species should be installed where space permits on Green Streets.
- Structural soil should be considered to increase soil volumes and connect soils below pavement.

ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- Integrated water management (IWM) interventions such as passive irrigation, soaker pits and rain gardens.
- Traffic calming measures such as pedestrian priority crossings and shared streets.
- Understorey planting that increases and supports site biodiversity.

INDICATIVE IMPLEMENTATION COST

$	$$	$$$	$$$$	$$$$$
< $50k	$50 - $250k	$250k - $600k	$600k - $1m	> $1m

EXEMPLAR IMAGERY



An example of a chicane in Richmond on a typical width street (approximately 15m) that creates space for two trees, understorey planting, and the continuation of two directions of vehicle traffic (Image Credit Google Street View).

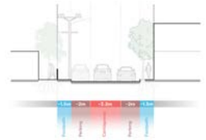
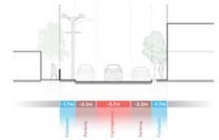
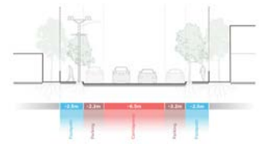
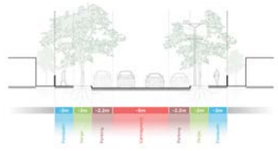


An example of lane narrowing in the City of Darebin (Image Credit City of Darebin).



Grosvenor Street demonstrates another option for configuration of chicanes that requires vehicles to slow and let oncoming traffic pass (Image Credit Google Street View).

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Micro Street		Small	Clear trunked, narrow canopy spread
Narrow Street		Small to Medium	Clear trunked, narrow canopy spread
Typical Street		Medium	Clear trunked, medium canopy spread
Green Street		Medium to Large	Clear trunked, wide crown

2 CORNER BUILD-OUTS

Corner build-outs effectively repurpose unused space at intersections where parking is not permitted—typically 10 metres in each direction from a corner—into planting areas. Whilst it is important to maintain clear sightlines for turning vehicles, these build-outs typically allow space to plant medium or large trees on most street types, with the added benefit of understorey planting.

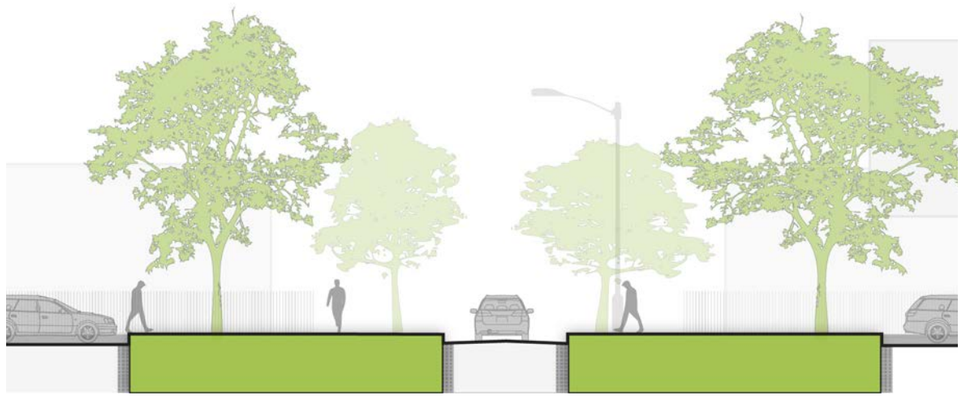
KEY BENEFITS

- Has a traffic calming effect.
- Provides generous space for tree soil volume.
- Typically, will include opportunities for understorey planting.
- Typically, will not impact footpaths, kerbs and existing service infrastructure.
- Trees are inset to roadway meaning they are less likely to be encumbered by overhead services.
- Promotes safe, legible pedestrian connectivity.

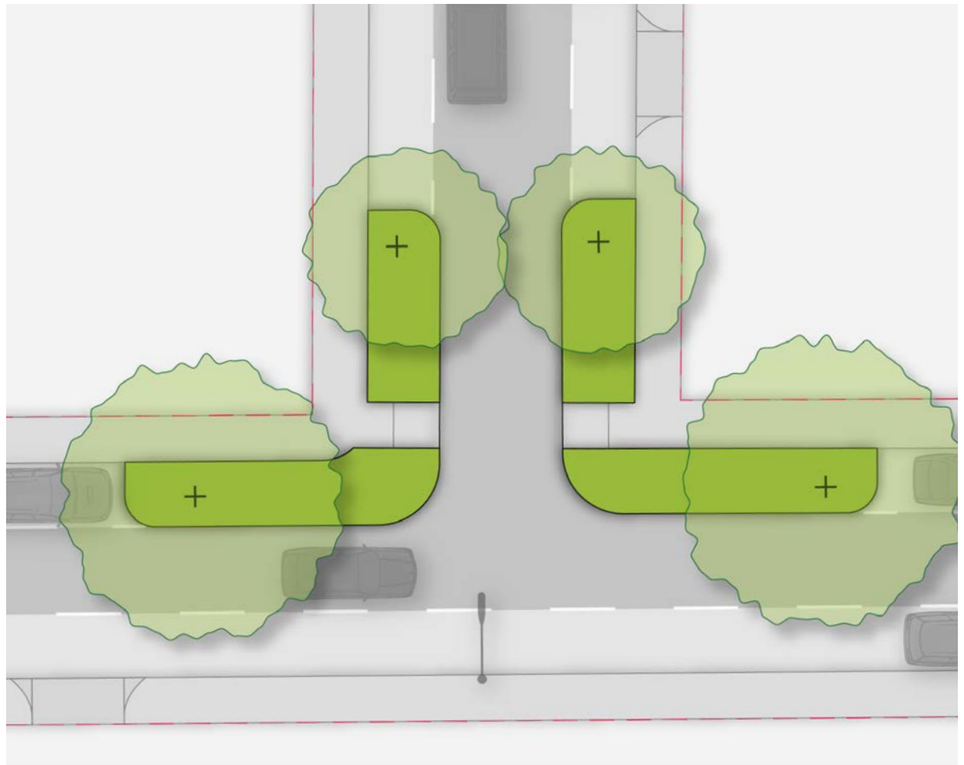


Figure 59: Highlighting all of the streets that are suitable for corner build-outs.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Formative pruning required to establish clear sight lines.
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Understorey planting should be a secondary consideration to tree selection and increasing canopy.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Large canopy/legacy tree species should be installed where space permits on Green Streets.
- Best-suited to low speed roads where vehicle sightlines can be shorter, allowing more trees to be installed.
- Consideration of vehicle turning radius and road widths will need to be made to determine extent of build-outs.

ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- Integrated water management (IWM) interventions such as passive irrigation, soaker pits and rain gardens.
- Traffic calming measures such as pedestrian priority crossings and shared streets.
- Understorey planting that increases and supports site biodiversity.
- Place making initiatives such as outdoor dining and seating.

INDICATIVE IMPLEMENTATION COST

$	**$$**	**$$$**	$$$$	$$$$$
< $50k	**$50 - $250k**	**$250k - $600k**	$600k - $1m	> $1m

EXEMPLAR IMAGERY

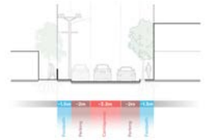
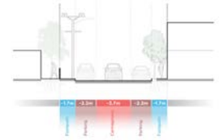
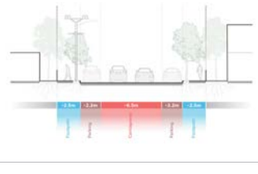
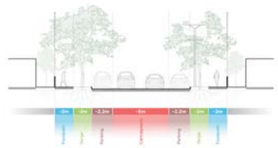
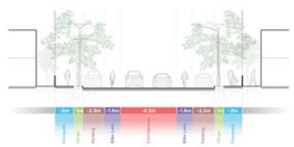
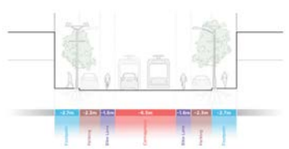
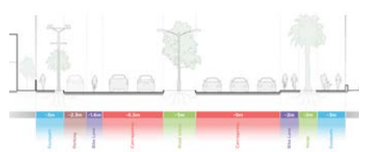


Example of existing corner build-outs on Acland Street, St Kilda (Image Credit Google Street View).



Example of existing corner build-outs with passive irrigation in the City of Sydney (image credit City of Sydney)

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Micro Street		Small to Medium	Clear trunked, narrow canopy spread
Narrow Street		Small to Medium	Clear trunked, narrow or medium canopy spread
Typical Street		Medium	Clear trunked, medium canopy spread
Green Street		Medium to Large	Clear trunked, wide crown
Connector Boulevard		Large	Clear trunked, wide crown
High Street		Large (dependent on overhead services)	Clear trunked, wide crown
Foreshore Boulevard		Large (dependent on overhead services)	Clear trunked, wide crown

3 TREE CONTAINERS & TEMPORARY GREENING

While the installation of permanent in-ground trees is strongly preferred, there may be situations where tree containers are appropriate as a temporary initiative or as a more permanent solution when in-ground tree installation is not viable. Tree containers and parklets can also be a viable option as a temporary greening measure while more long-term streetscape re-design projects are being completed.

KEY BENEFITS

- Can be used by COPP to trial street tree canopy interventions.
- Can be used as a temporary intervention to boost canopy.
- Can be used to introduce canopy where service or cost constraints may be prohibitive to installing permanent tree installations.
- The selected container can contribute to place making and neighbourhood character identity.

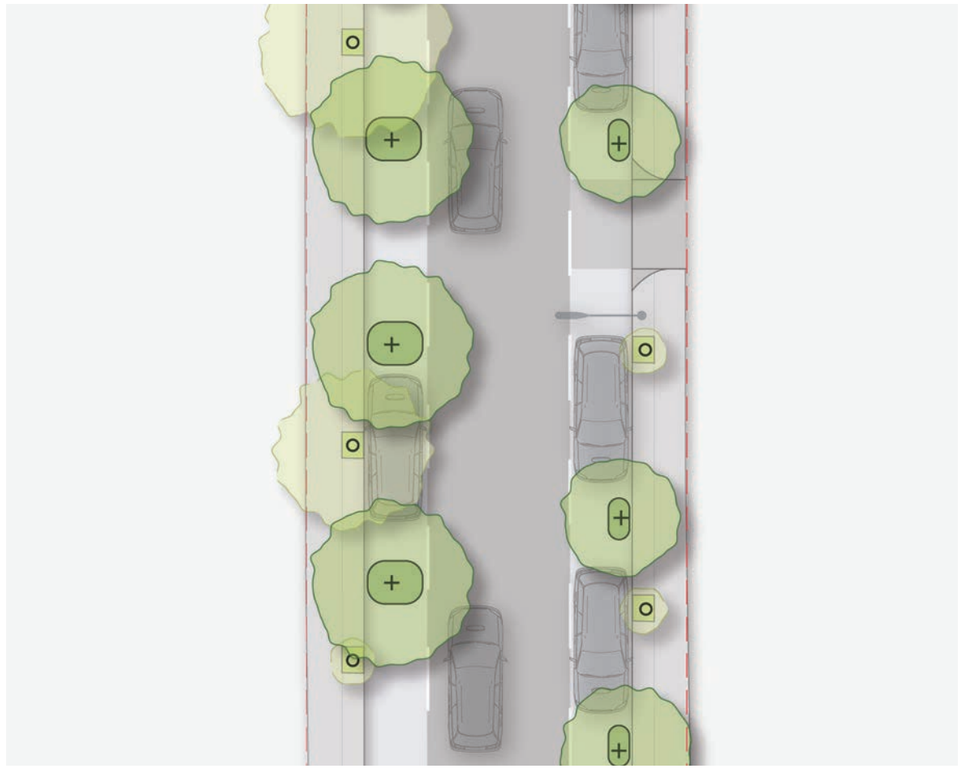


Figure 60: Highlighting all of the streets that are suitable for tree containers and temporary greening.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Tree planters should be as large as practicable in order to increase soil volume, water retention and reduce heat vulnerability.
- Planters should be designed to be moveable via a forklift or similar.
- Irrigation or hand watering required year-round, particularly during hot dry periods.
- Suggest low litter-producing species as the trees will directly overhang the road.
- Where planters are to be permanent it is vital they provide the minimum rooting area for the size of the desired tree.
- A robust community engagement framework is imperative, finding community champions.
- Prioritising community driven support for the projects and in some cases, co-funding partnerships with businesses and building owners.

ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- May form part of a temporary pop-up park design.
- Consider planting food-producing species for additional community benefits.
- Container design can be commissioned to local artists.
- Laneway greening is an opportunity for trial programs or pilot projects which could be scaled up across the precinct.

INDICATIVE IMPLEMENTATION COST

$	$$	$$$	$$$$	$$$$$
< $50k	$50 - $250k	$250k - $600k	$600k - $1m	> $1m

EXEMPLAR IMAGERY



An example of a planting container with sufficient soil volume for a tree by Street Furniture Australia (Image Credit Street Furniture Australia).

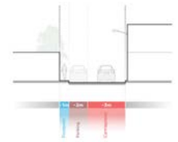
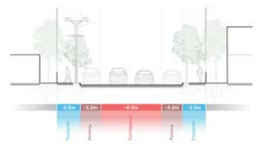
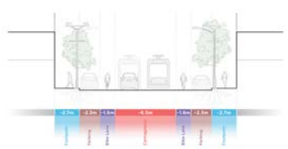
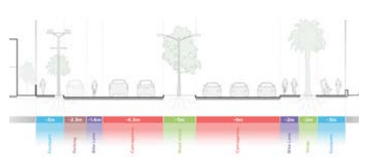


Planting containers on Olympic Boulevard, Richmond (Image Credit Google Street View).



Temporary tree container planters in the City of Melbourne (Image Credit City of Melbourne).

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Access Laneways			
Micro Street		Dependent on container size (likely Small to Medium)	Narrow canopy spread
Narrow Street		Dependent on container size (likely Small to Medium)	Narrow to medium canopy spread
Typical Street		Dependent on container size (likely Small to Medium)	Medium canopy spread
High Street		Dependent on container size (likely Small to Medium)	Medium to large canopy spread
Foreshore Boulevard		Dependent on container size (likely Small to Medium)	Medium to large canopy spread

4 PROTECTED PEDESTRIAN CROSSINGS

Pedestrian crossings not only enhance pedestrian connectivity by providing a safe, legible crossing point, but the build-outs on either side of the crossing also create planting spaces for trees and understorey vegetation. This allows trees to be planted away from the footpath constraints of powerlines and underground services, increasing shade over a larger portion of the road surface.

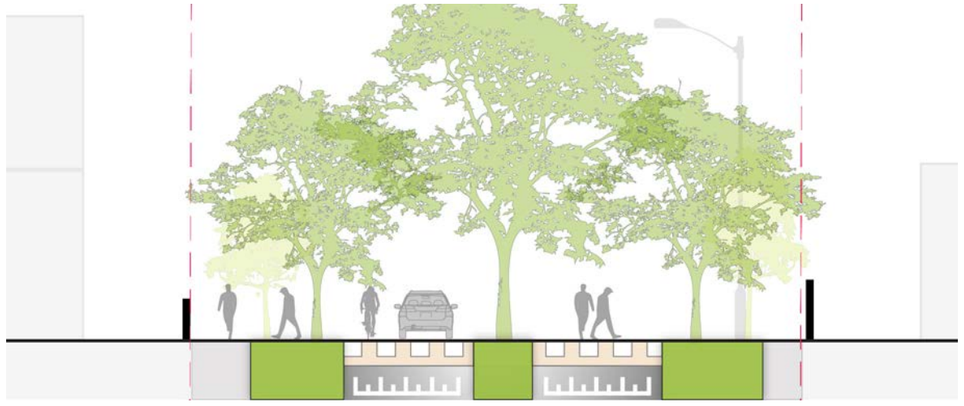
KEY BENEFITS

- Has a traffic calming effect.
- Promotes pedestrian connectivity.
- Provides generous space for tree soil volume.
- Typically, will include opportunities for understorey planting.
- Typically, will not impact footpaths, kerbs and existing service infrastructure.
- Trees are inset to roadway meaning they are less likely to be encumbered by overhead services.
- Promotes safe, legible pedestrian connectivity.

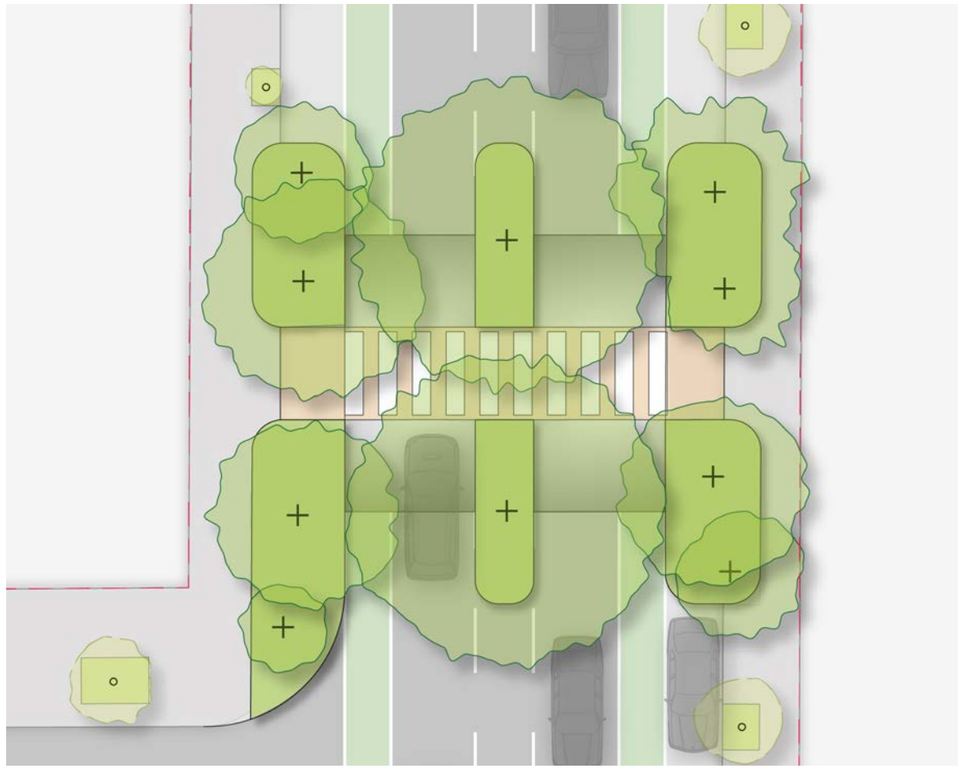


Figure 61: Highlighting all of the streets that are suitable for protected pedestrian crossings.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Crossings should be located on pedestrian desire routes, or spaced along emerging retail and activity areas.
- Formative pruning required to establish clear sight lines.
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Understorey planting should be a secondary consideration to tree selection and increasing canopy.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Consideration of vehicle turning radius and road widths will need to be made to determine extent of build-outs.
- Irrigation or hand watering required during hot dry periods.
- Suggest low litter-producing species as the trees will directly overhang the road and crossing.
- Large canopy/legacy tree species should be installed where space permits on Connector Boulevards.

ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- Integrated water management (IWM) interventions such as passive irrigation, soaker pits and rain gardens.
- Understorey planting that increases and supports site biodiversity.
- Place making initiatives such as outdoor dining and seating.

INDICATIVE IMPLEMENTATION COST

$	$$	**$$$**	$$$$	$$$$$
< $50k	$50 - $250k	**$250k - $600k**	$600k - $1m	> $1m

EXEMPLAR IMAGERY

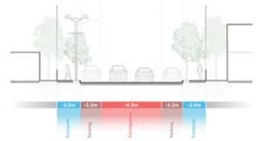
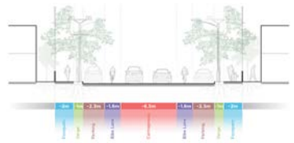


Beenleigh Town Square by LatStudios incorporates pedestrian crossings that produce high-quality landscaping outcomes with place making benefits (Image Credit LatStudios).



A raised crossing with planting areas created in the adjacent build-outs in Sydney (Image Credit NSW Government)

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Typical Street		Medium to Large	Clear trunked, medium canopy spread
Connector Boulevard		Large	Clear trunked, medium to large canopy spread

5 KERB OUTSTANDS (WITHIN ROAD)

This intervention involves an audit of parking areas to identify surplus space for tree planting in additional outstands in-between driveway crossovers. This is a low-cost intervention that does not reduce car park numbers. Depending on budget, re-paving car parks with permeable material can allow for connected soil between tree outstands and for better-integrated stormwater management.

KEY BENEFITS

- Can provide generous space for tree soil volume.
- Typically, will not impact footpaths, kerbs and existing service infrastructure.
- Trees are inset to roadway meaning they are less likely to be encumbered by overhead services.
- The increased permeable surface area can aid stormwater runoff management.

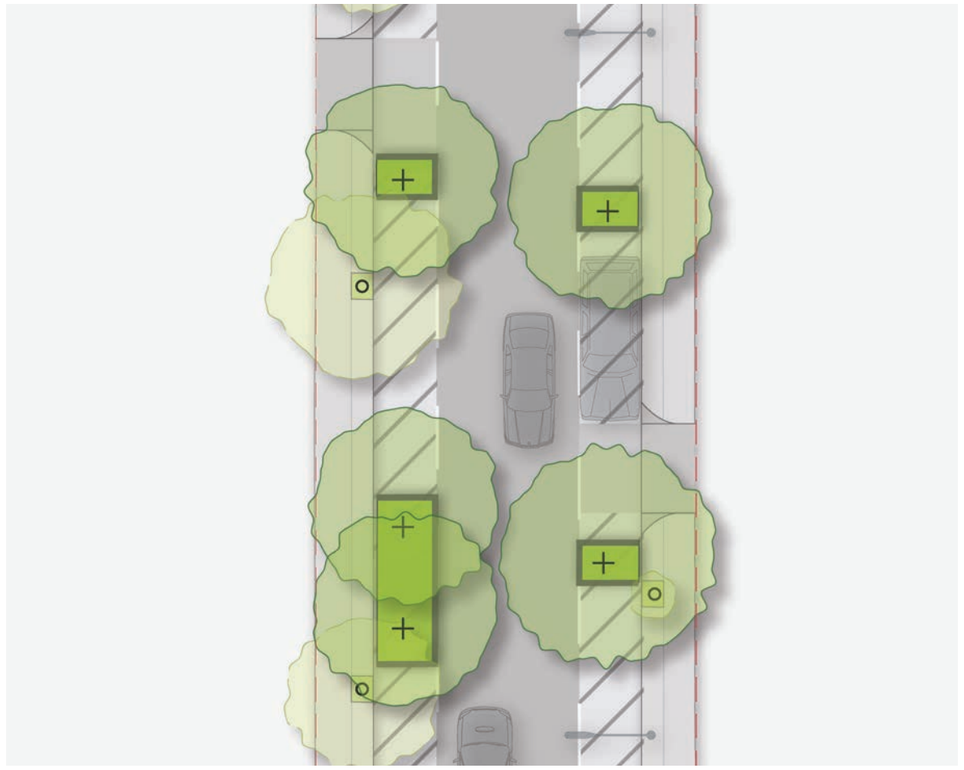


Figure 62: Highlighting all of the streets that are suitable for kerb outstands.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Formative pruning required to establish clear sight lines.
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Understorey planting should be a secondary consideration to tree selection and increasing canopy.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Structural soil should be considered to increase soil volumes and connect soils below pavement.
- Irrigation or hand watering required during hot dry periods.
- Suggest low litter-producing species as the trees will directly overhang the road.

ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- More frequent and larger outstands are possible if car parking numbers can be reduced.
- Repaving parking spaces with permeable paving will further increase stormwater directed to tree root zones.
- Integrated water management (IWM) interventions such as passive irrigation, soaker pits and rain gardens.
- Understorey planting that increases and supports site biodiversity.

INDICATIVE IMPLEMENTATION COST

$	$$	$$$	$$$$	$$$$$
< $50k	$50 - $250k	**$250k - $600k**	$600k - $1m	> $1m
Per cut-out		For a whole street		

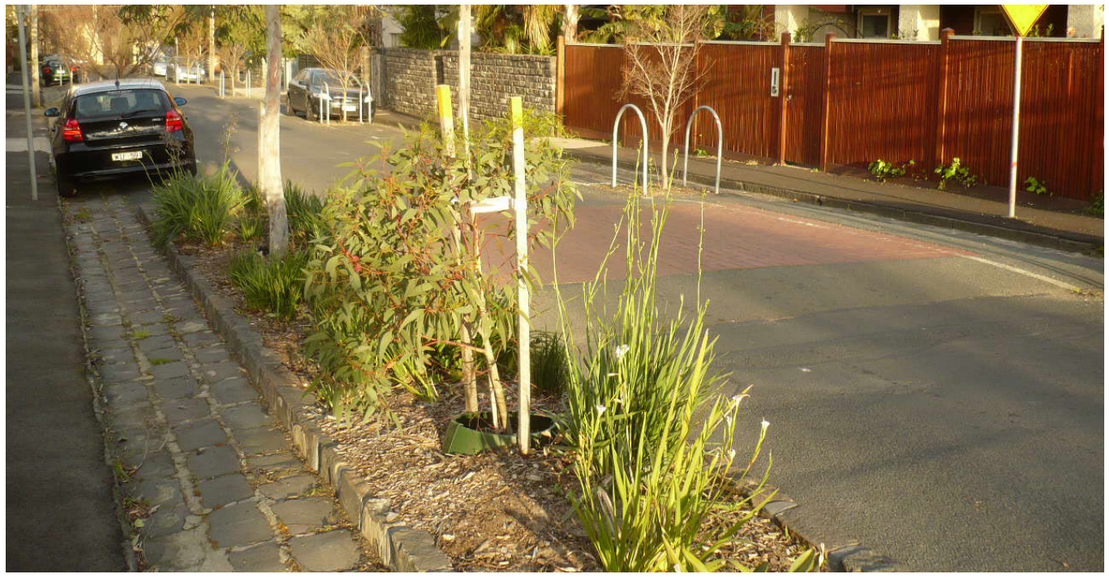
EXEMPLAR IMAGERY



This example shows how a spoon drain between driving lanes and parking bays can direct stormwater to the outstand (Image Credit City of Melbourne)

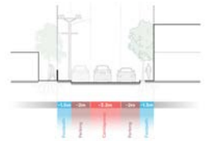
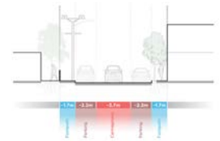
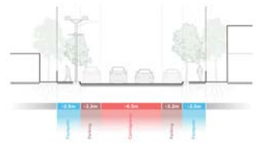
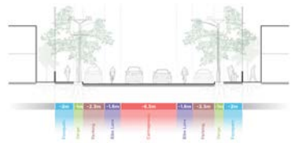
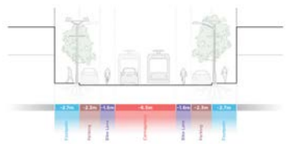
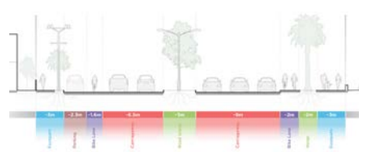


An example of a tree outstand with a flush bluestone kerb, rather than a raised kerb.



An example of a tree outstand in Octavia Street, St Kilda that is wide enough to plant two trees, providing benefits of connected soil and canopy (Image Credit Jaag St Kilda)

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Micro Street		Small	Clear trunked, narrow canopy spread
Narrow Street		Small to Medium	Clear trunked, narrow to medium canopy spread
Typical Street		Medium	Clear trunked, medium canopy spread
Connector Boulevard		Medium to Large	Clear trunked, large canopy spread
High Street		Medium to Large	Clear trunked, large canopy spread
Foreshore Boulevard		Medium to Large	Clear trunked, large canopy spread

6 FOOTPATH WIDENING

In this intervention the central trafficable lane is reduced to a minimum width, with the surplus space being attributed to one side of the street for a larger verge zone to be planted with trees and understorey vegetation.

The removal of impermeable surfaces between the trees will allow for connected soil volumes. This concept can also apply to streets identified for conversion to one-way.

KEY BENEFITS

- Lower speed limits (30km/hr) and traffic calming can be implemented for the reduced lane width.
- Provides generous space for tree soil volume.
- Typically, will include opportunities for understorey planting.
- Provides a wider footpath and more comfortable pedestrian environment.

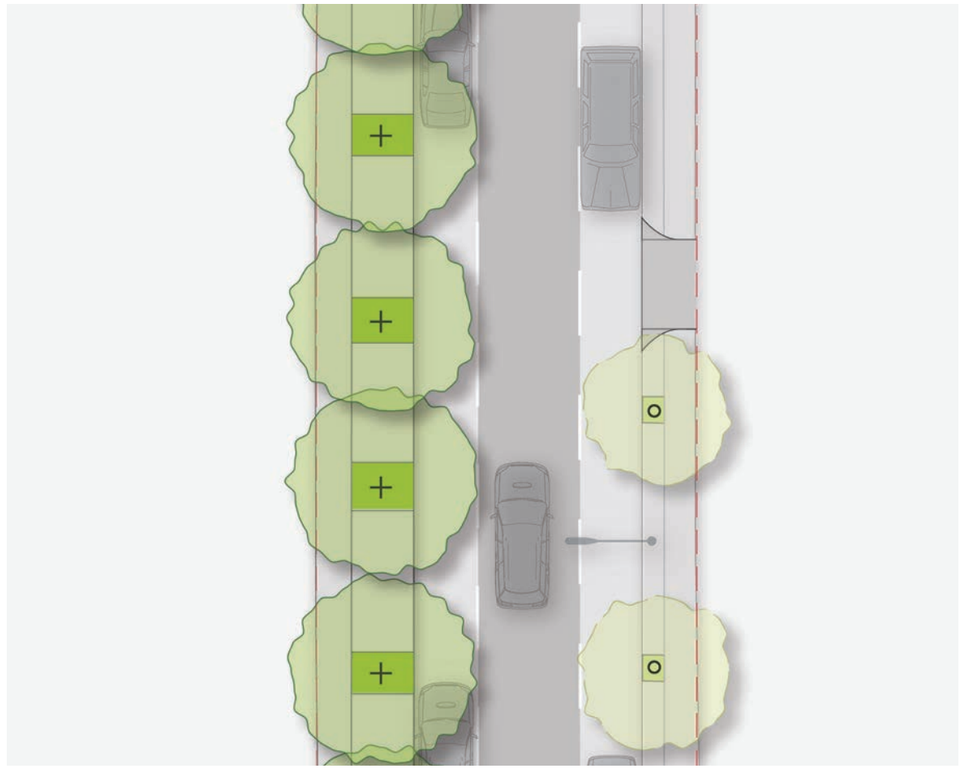


Figure 63: Highlighting all of the streets that are suitable for footpath widening.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- It is reccommended that the surplus width be added to the western or northern kerb (depending on street orientation).
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Understorey planting should be a secondary consideration to tree selection and increasing canopy.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Structural soil should be considered to increase soil volumes and connect soils below pavement.
- Irrigation or hand watering required during hot dry periods.

ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- IWM interventions such as passive irrigation, soaker pits and rain gardens.
- Traffic calming measures such as pedestrian priority crossings and shared streets.
- Understorey planting that increases and supports site biodiversity.
- Place making initiatives such as outdoor dining and seating.

INDICATIVE IMPLEMENTATION COST

$	$$	$$$	$$$$	**$$$$$**
< $50k	$50 - $250k	$250k - $600k	$600k - $1m	**> $1m**

EXEMPLAR IMAGERY

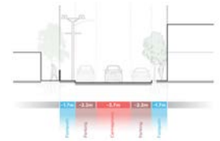
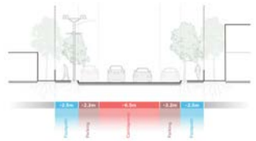


A widened footpath in Clowes Street, Melbourne, has generated a new strip of biodiverse planting along the building boundary (Image Credit University of Melbourne).



An example of a street that was narrowed, with the additional space being used to widen the footpath and create space for planting in Geelong (Image Credit Revitalising Central Geelong).

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Narrow Street		Small to Medium	Clear trunked, narrow to medium canopy spread
Typical Street		Medium to Large	Clear trunked, medium to large canopy spread

7 TREE CUT OUTS (WITHIN FOOTPATH)

In this intervention designated planting spaces for street trees are created by cut outs in the footpath, in locations where underground and overhead services are not constraints, and footpath widths can be maintained. These cut outs are the lowest-cost initiative and do not require net loss of car parks. On busy streets, tree guards should be incorporated into the cut out to protect the tree.

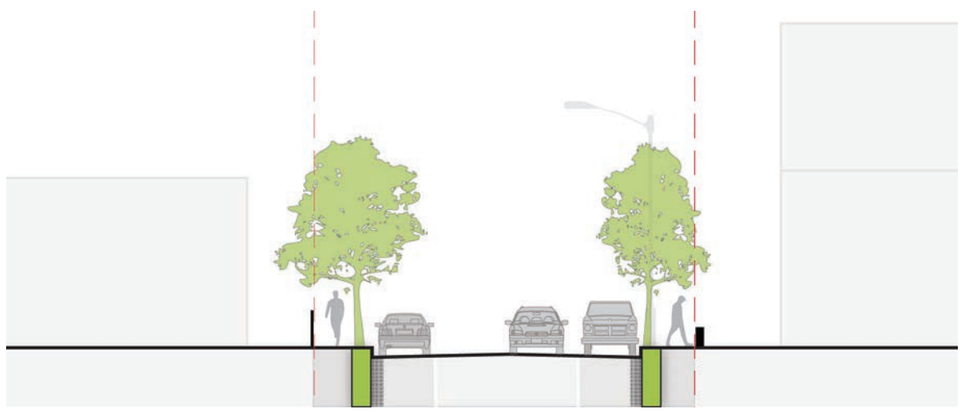
KEY BENEFITS

- No net loss of car parking.
- Low-cost and adaptable initiative.

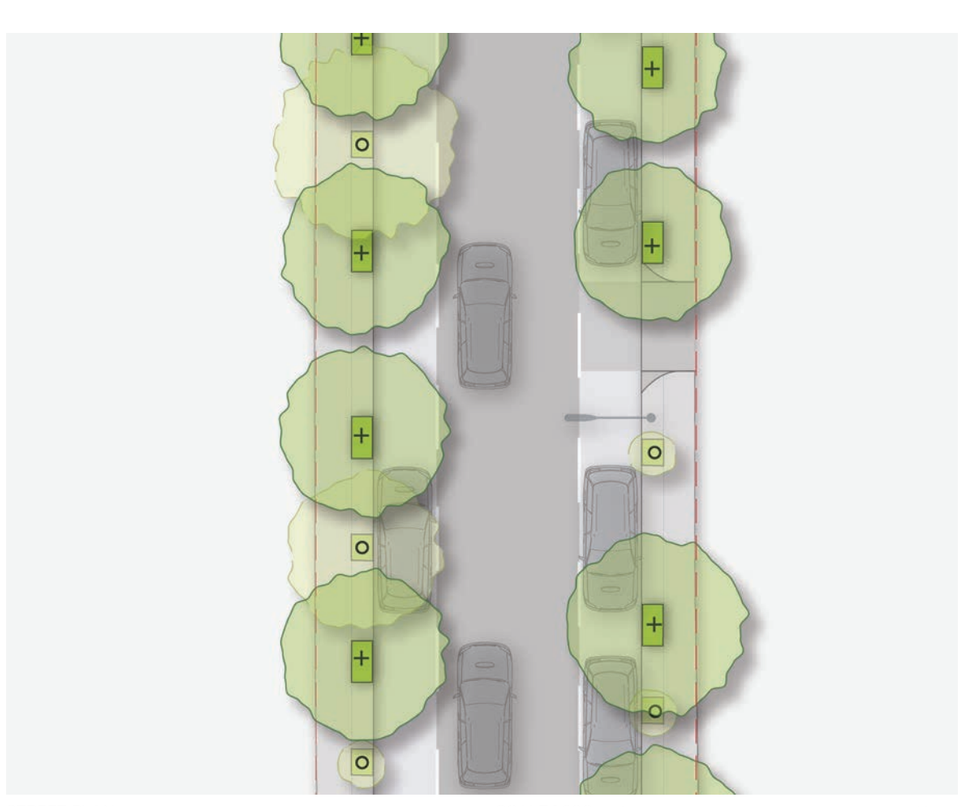


Figure 64: Highlighting all of the streets that are suitable for tree cut outs.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Formative pruning required to establish clear sight lines.
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Structural soil should be considered to increase soil volumes and connect soils below pavement.
- Irrigation or hand watering required during hot dry periods.
- Suggest low litter-producing species as the trees will directly overhang the road and footpath.

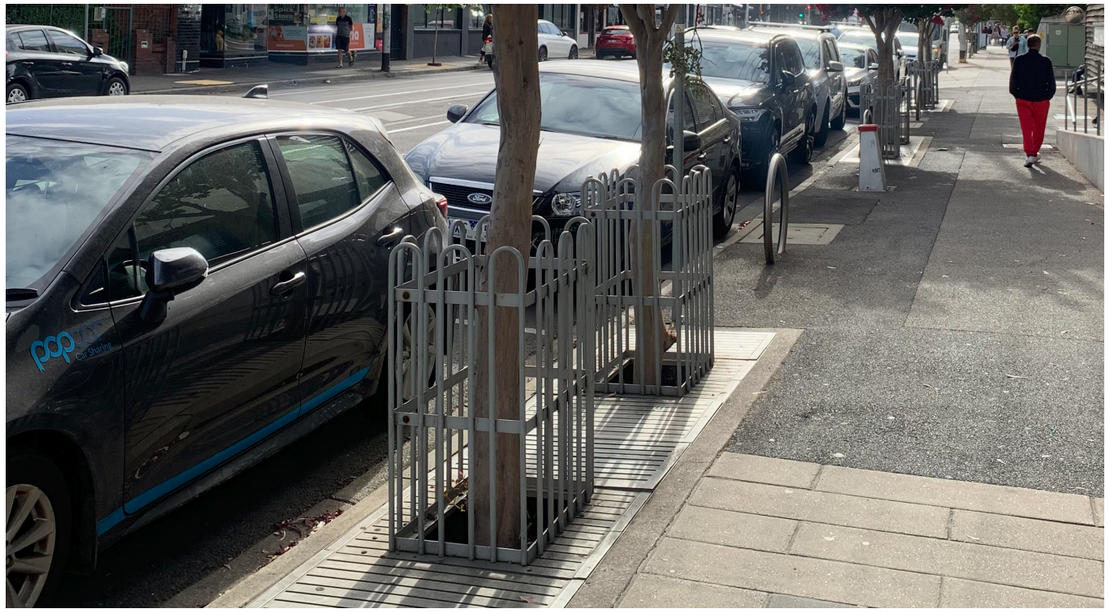
ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- IWM interventions such as passive irrigation, soaker pits and rain gardens.
- Understorey planting that increases and supports site biodiversity.

INDICATIVE IMPLEMENTATION COST

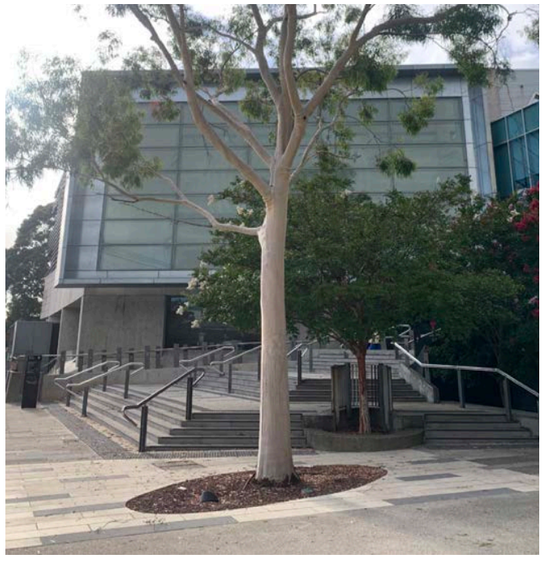
$	$$	$$$	$$$$	$$$$$
< $50k	$50 - $250k	$250k - $600k	$600k - $1m	> $1m

EXEMPLAR IMAGERY



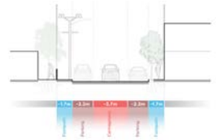
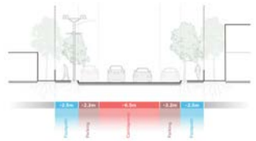
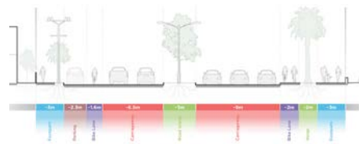
An example of tree cut outs with trees planted into pits large enough for connected soil between pairings.





Further examples of trees planted into cut outs within the footpath in the City of Port Phillip.

SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Narrow Street		Small to Medium	Clear trunked, narrow canopy spread
Typical Street		Medium to Large	Clear trunked, medium canopy spread
Foreshore Boulevard		Medium to Large	Clear trunked, medium canopy spread

8 CENTRAL MEDIAN

This intervention involves using the excess width of a street to create a central median strip for tree planting. Centrally planted street trees are generally unencumbered by underground and overhead service constraints, allowing for the largest, widest-spreading tree species. The central median enables extended strips of connected soil and canopy, and can be used to capture road runoff.

KEY BENEFITS

- Has a traffic calming effect.
- Provides generous space for tree soil volume and connected soil.
- Typically, will include opportunities for understorey planting.
- Typically, will not impact footpaths, kerbs and existing service infrastructure.
- Trees are inset to roadway meaning they are less likely to be encumbered by overhead services.

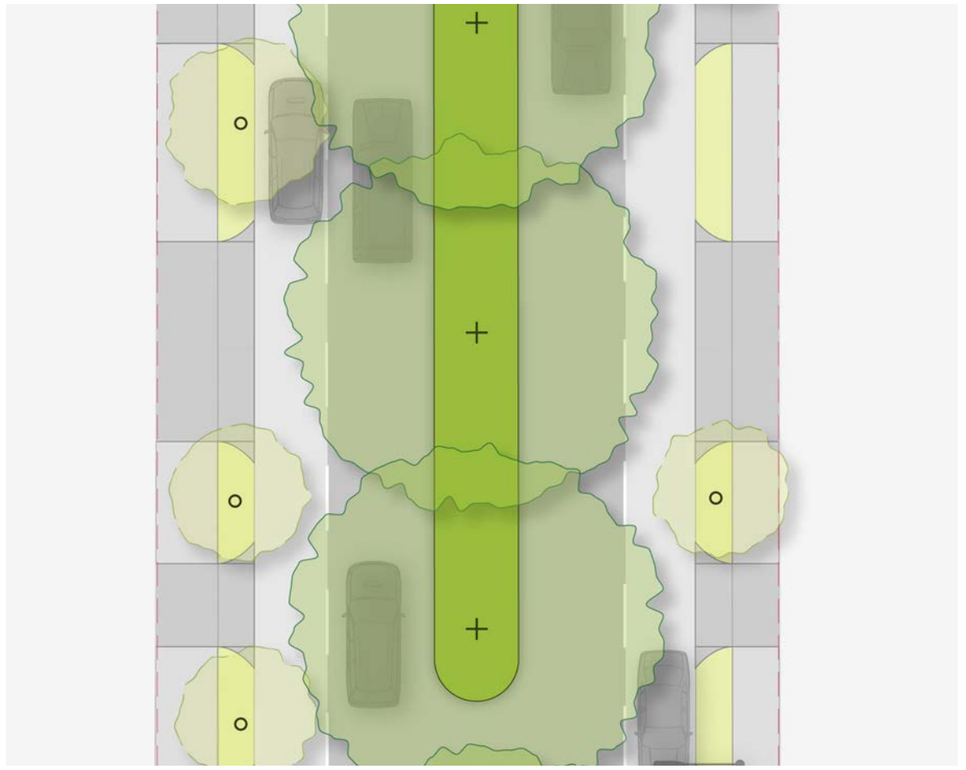


Figure 65: Highlighting all of the streets that are suitable for a central median.

FUNCTIONAL LAYOUT



STREET SECTION



STREET PLAN SCALE 1:200 0 5 10m

TECHNICAL AND MAINTENANCE CONSIDERATIONS

- Formative pruning required to establish clear sight lines.
- Prioritise tree species that maintain consistent natural form and lend well to formative pruning, in particular those in close proximity to overhead services.
- Understorey planting should be a secondary consideration to tree selection and increasing canopy.
- Sightlines will need to be considered as part of tree placement and may impact the number of trees that can be installed.
- Large canopy/legacy tree species should be installed where space permits on Connector Boulevards.
- Structural soil should be considered to increase soil volumes and connect soils below pavement.
- Irrigation or hand watering required during hot dry periods.

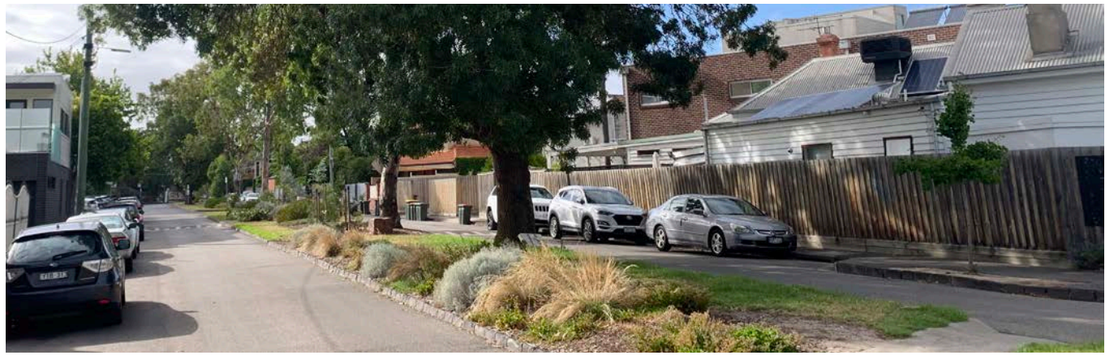
ADDITIONAL OPPORTUNITIES TO BE CONSIDERED AS PART OF INTERVENTION

- Integrated water management (IWM) interventions such as passive irrigation, soaker pits and rain gardens.
- Traffic calming measures such as pedestrian priority crossings and shared streets.
- Understorey planting that increases and supports site biodiversity. Particularly wide medians can become bio-links.
- Place making initiatives such as outdoor dining and seating.

INDICATIVE IMPLEMENTATION COST

$	$$	$$$	$$$$	**$$$$$**
< $50k	$50 - $250k	$250k - $600k	$600k - $1m	**> $1m**

EXEMPLAR IMAGERY



A particularly wide central median strip that is currently being converted into a walking trail and 'bio-link' on Bothwell Street, Balaclava

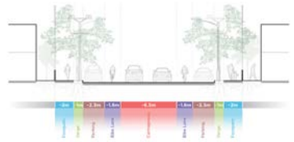
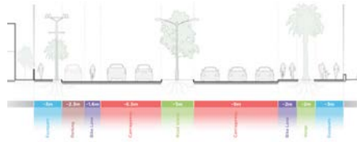


A central median strip on Bridge Road, Port Melbourne (Image Credit Google Street View)



A vegetated swale in a central median strip in Bungarribee, including breaks in the kerb for passive irrigation (Image Credit Blacktown City Council)

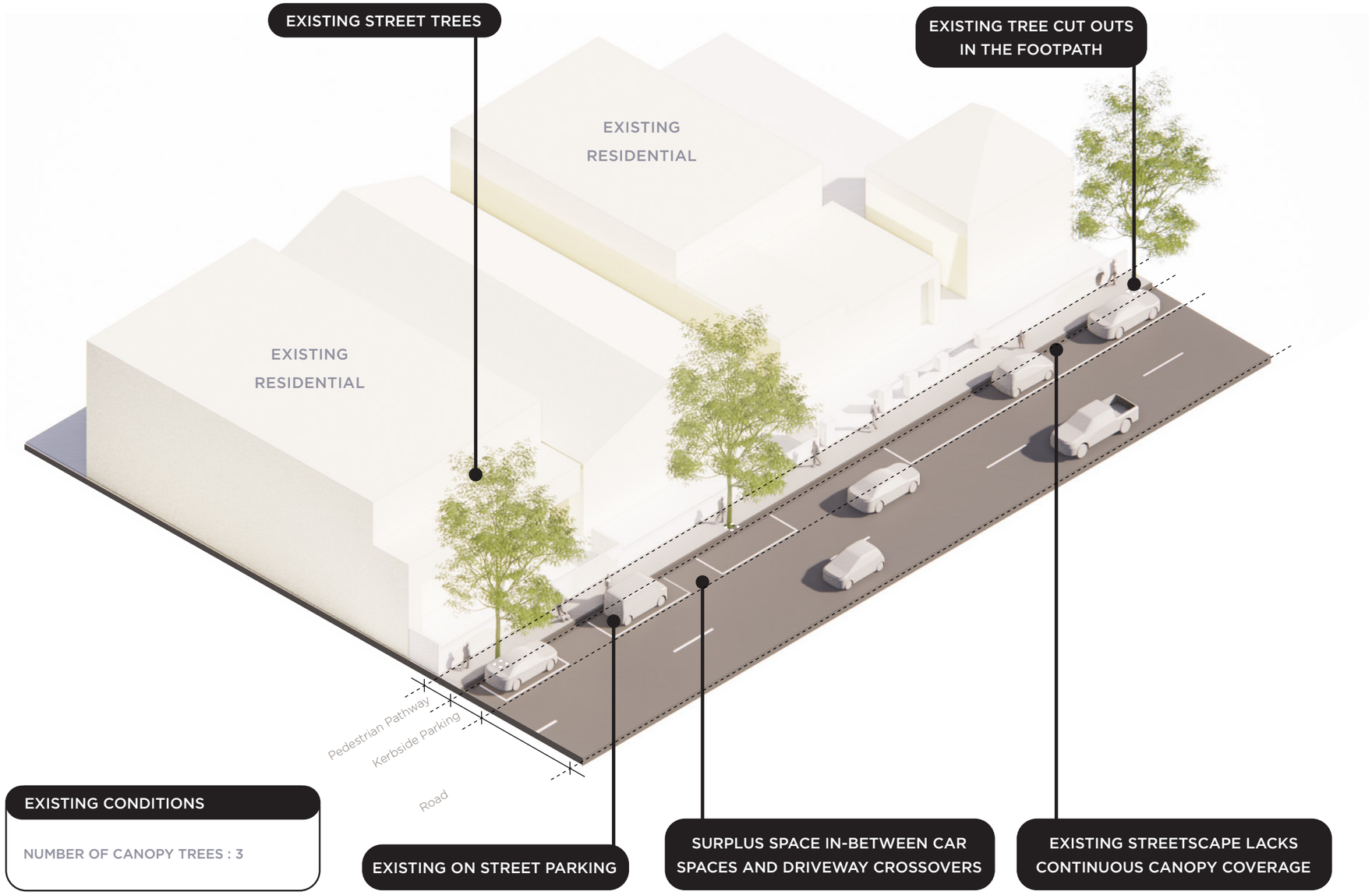
SUITABLE STREET TYPES, TREE SIZE AND FORM GUIDANCE

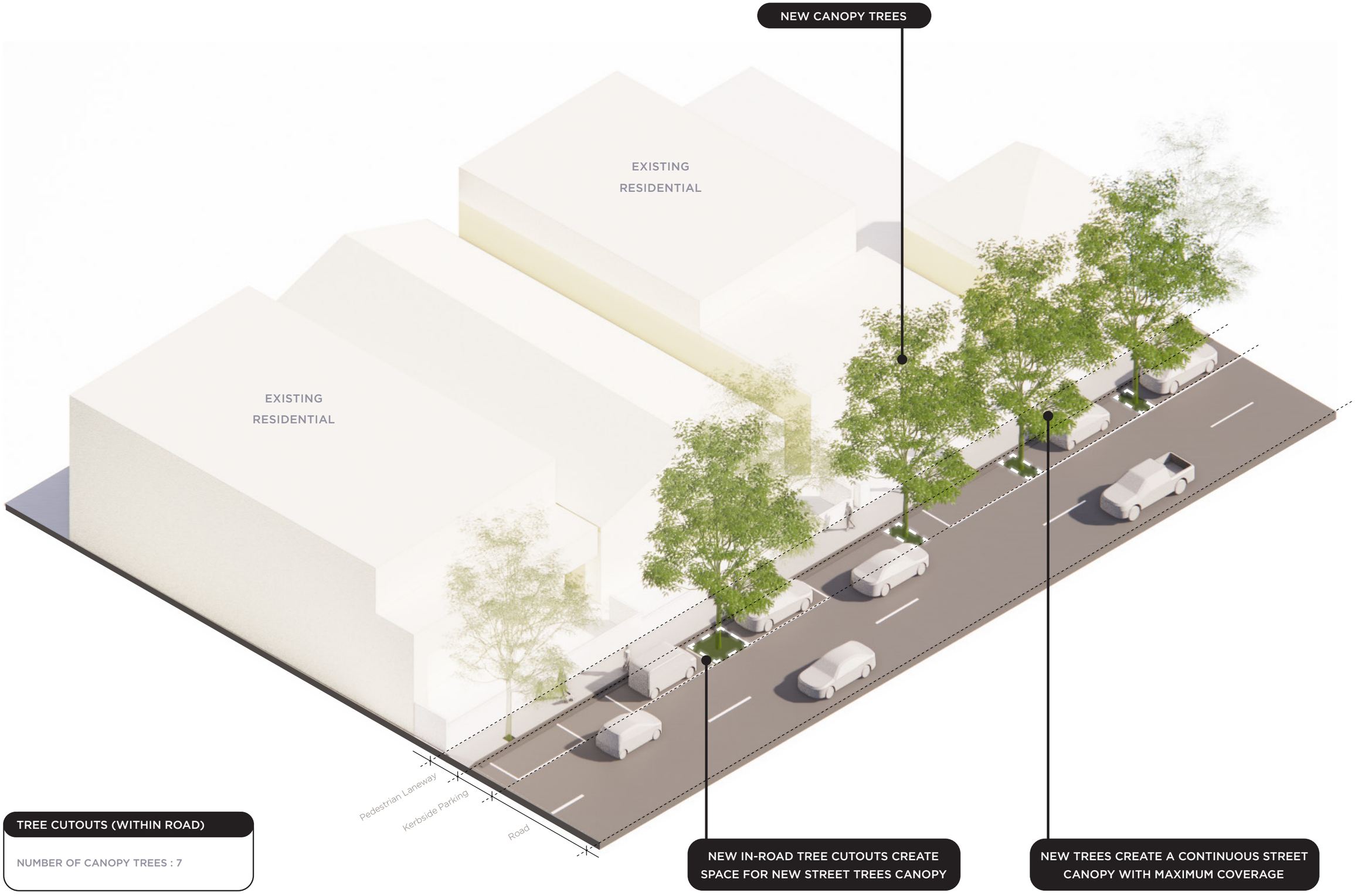
STREET TYPE	CONFIGURATION	TREE SIZE	TREE FORM
Connector Boulevard		Large (the largest species is considered)	Clear trunked, largest canopy spread
Foreshore Boulevard		Large (the largest species is considered)	Clear trunked, largest canopy spread

URBAN FOREST DESIGN TOOLKIT - CASE STUDIES

CASE STUDY 1: USING IN-ROAD TREE CUTOUTS TO PROVIDE INCREASED CANOPY

In-road tree cut-outs allow for canopy planting within existing carriageways, making use of otherwise hard surfaced areas. By introducing trees closer to the centreline, this intervention supports urban cooling, improves habitat connectivity, and adds visual interest. The adjacent diagrams demonstrate how the Design Toolkit can guide cut-out placement and design.

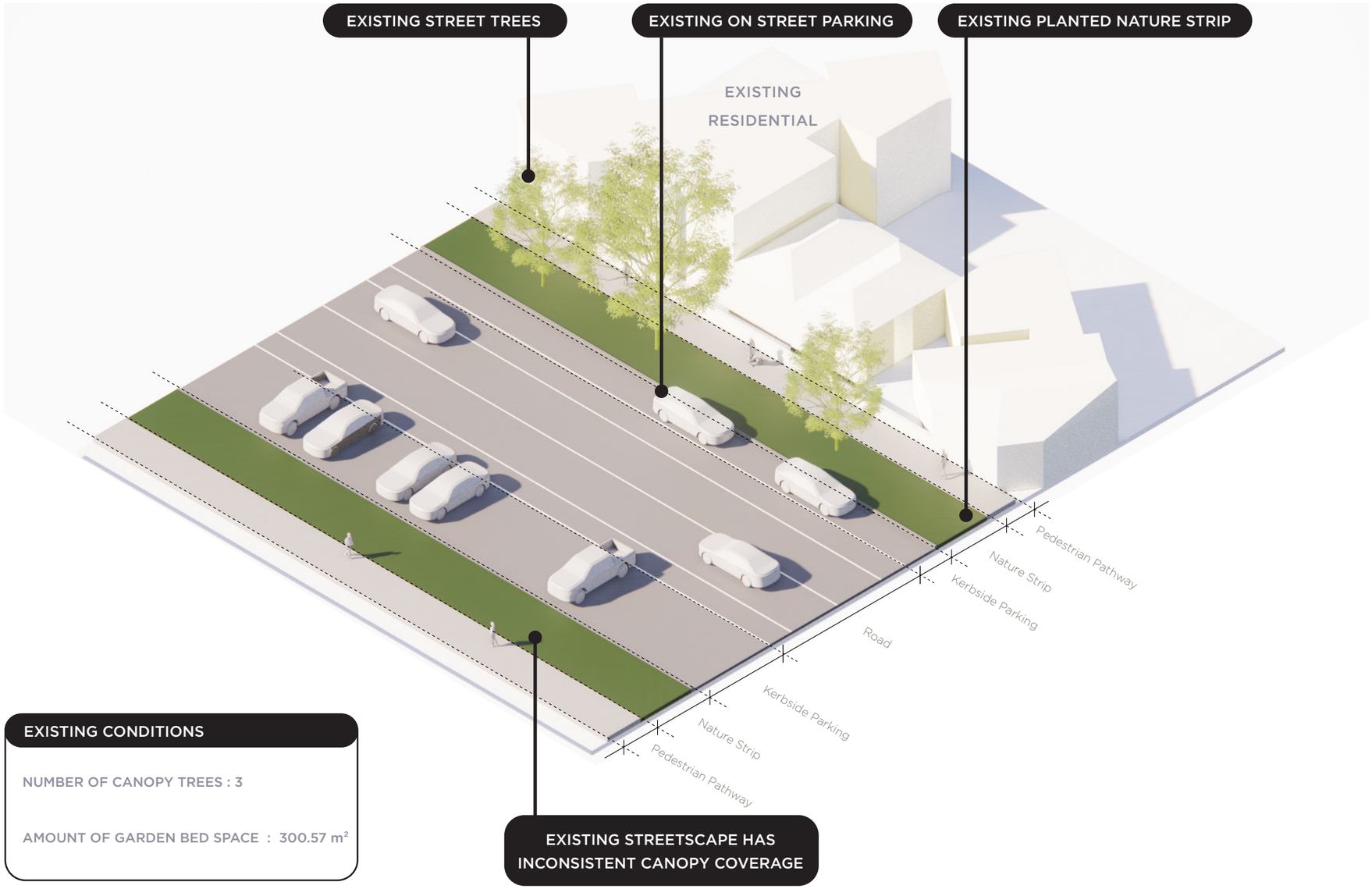


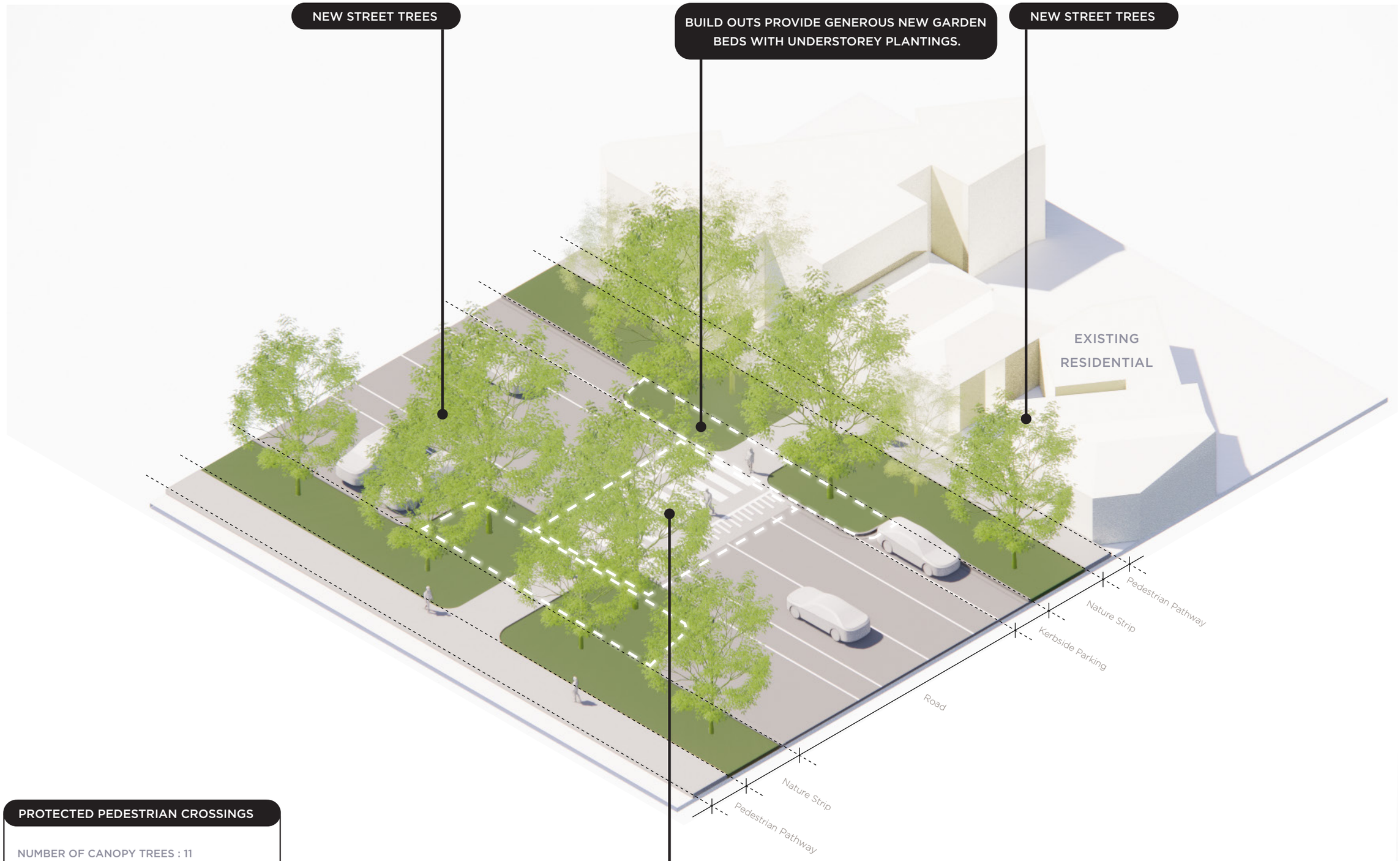

NEW CANOPY TREES
EXISTING
RESIDENTIAL
EXISTING
RESIDENTIAL
Pedestrian Laneway
Kerbside Parking
Road
TREE CUTOUTS (WITHIN ROAD)
NUMBER OF CANOPY TREES : 7
NEW IN-ROAD TREE CUTOUTS CREATE SPACE FOR NEW STREET TREES CANOPY
NEW TREES CREATE A CONTINUOUS STREET CANOPY WITH MAXIMUM COVERAGE

URBAN FOREST DESIGN TOOLKIT - CASE STUDIES

CASE STUDY 2: PROTECTED PEDESTRIAN CROSSINGS FOR INCREASED CANOPY AND GREENING

Protected pedestrian crossings present opportunities to integrate canopy trees and planting zones within crossing islands and approach treatments. These enhancements improve pedestrian safety, increase shade, and contribute to broader greening networks. The adjacent diagrams illustrate how the Design Toolkit informs planting and design outcomes at crossing points.





PROTECTED PEDESTRIAN CROSSINGS

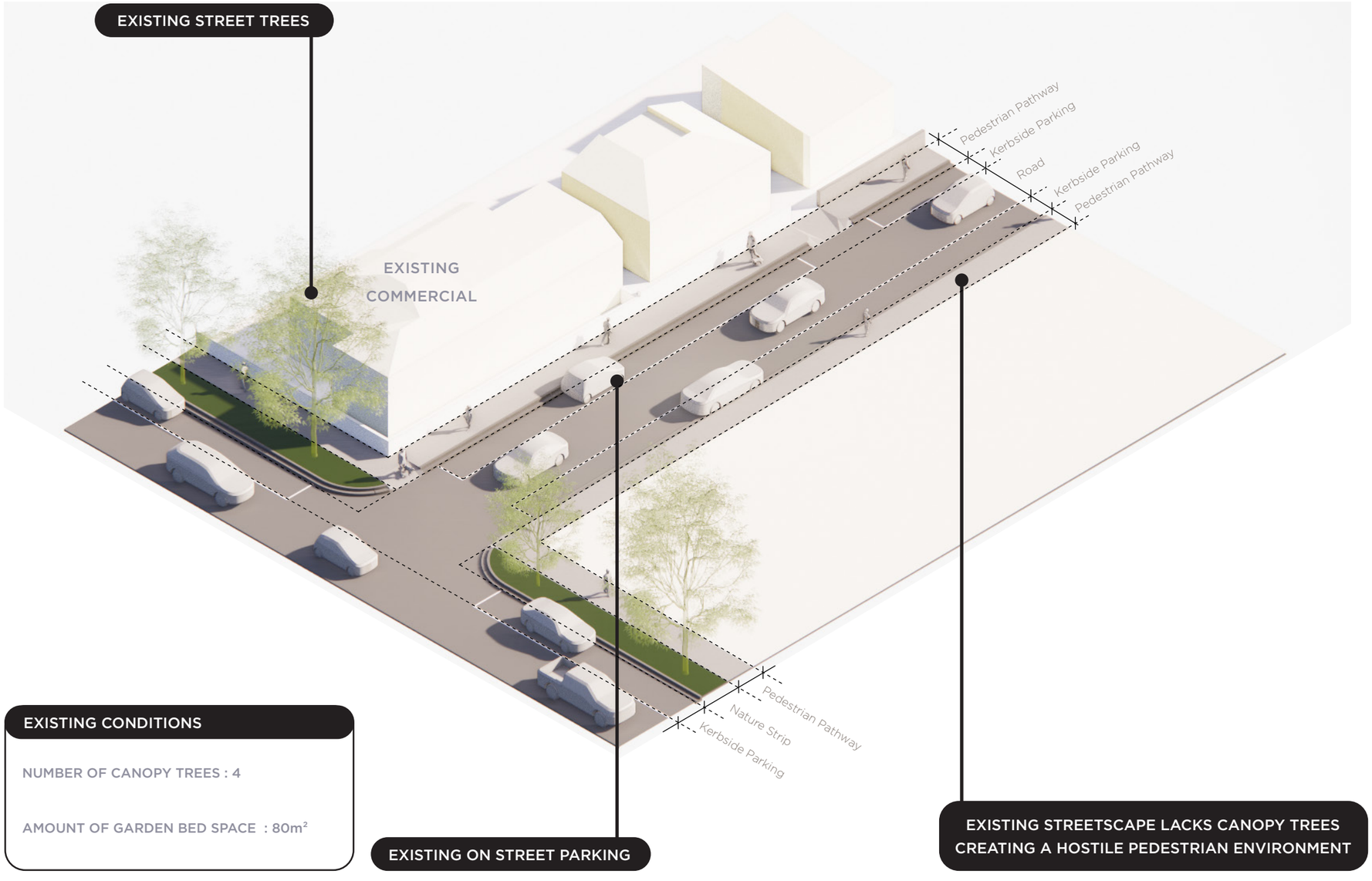
NUMBER OF CANOPY TREES : 11

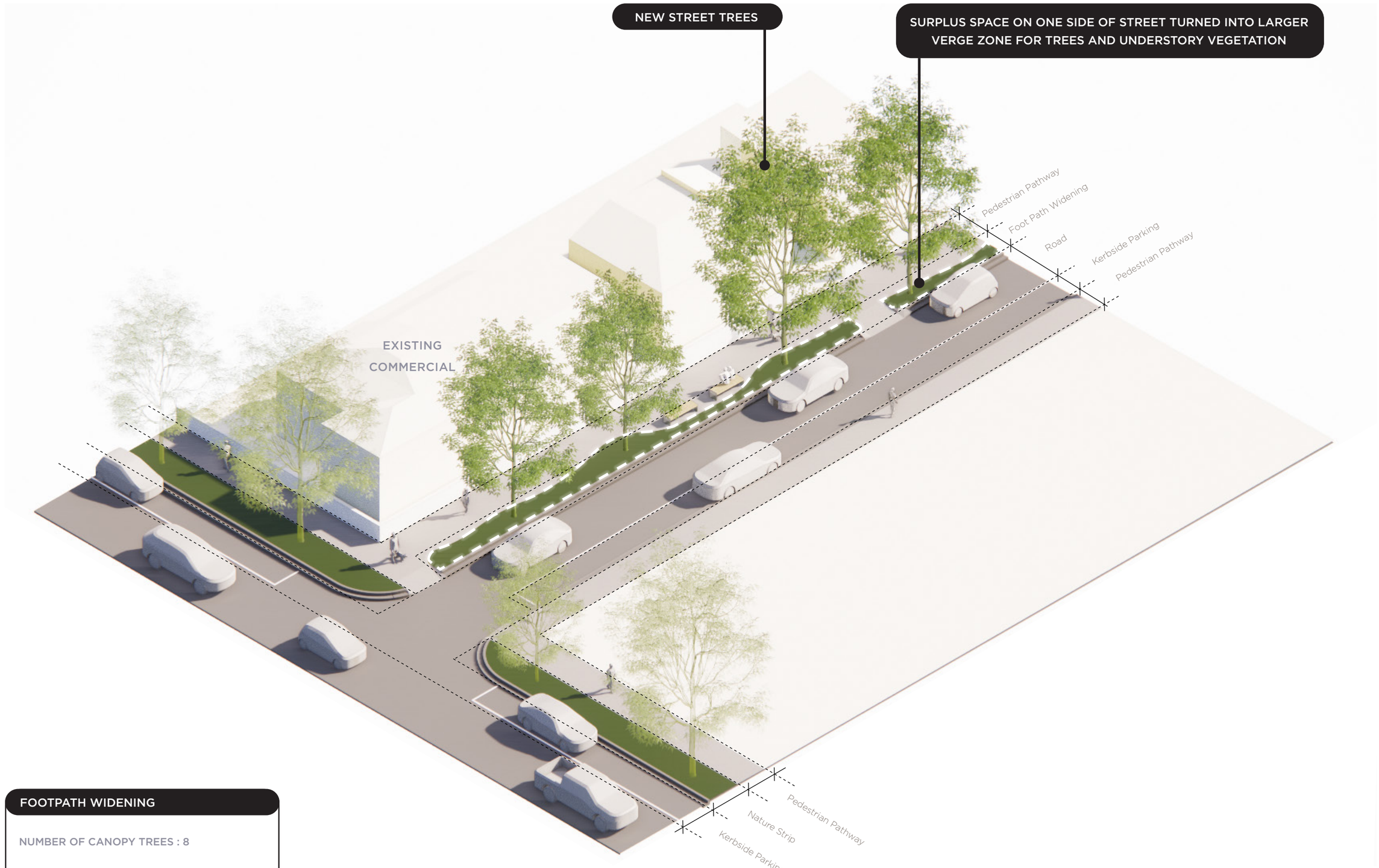
AMOUNT OF GARDEN BED SPACE : 395 m^2

URBAN FOREST DESIGN TOOLKIT - CASE STUDIES

CASE STUDY 3: USING FOOTPATH WIDENING TO PROVIDE ADDITIONAL CANOPY AND URBAN GREENING

Footpath widening creates space for canopy trees, understory planting, and water-sensitive urban design elements. These upgrades not only improve pedestrian comfort and accessibility but also deliver meaningful increases in shade, biodiversity, and stormwater management capacity. The adjacent diagrams show how the Design Toolkit can guide greening within widened footpaths.





FOOTPATH WIDENING

NUMBER OF CANOPY TREES : 8

AMOUNT OF GARDEN BED SPACE : 135 m^2

APPENDIX C

BACKGROUND DOCUMENT SUMMARIES, CASE STUDIES & BEST PRACTICE

BACKGROUND DOCUMENT REVIEW

DOCUMENT REVIEW

A review of existing Council strategies and reports and similar projects was undertaken to inform the UFPPs. These documents identify Council's aspirations for streets and open spaces. Key implications for the UFPP's have been summarised over the following pages.Key documents that were reviewed in detail:

- Urban Forest Strategy, 2024 - 2040
- City of Port Phillip Housing Strategy, 2024 - 2039
- Move, Connect, Live: Integrated Transport Strategy 2018-2028
- Places for People: Public Space Strategy, 2022 – 2032
- Public Space Strategy: Technical Report
- Greening Port Phillip Street Tree Planting Program, 2017-2022
- Albert Park Master Plan, 2019
- Yani Barripbarripuyt (formerly Shrine to Sea) Master Plan, 2024
- Council Plan & Budget, 2021 – 2031
- Parking Management Policy, 2020
- Nature Strip and Street Gardening Guidelines, 2022
- Urban Forest Strategy Background and Benchmarking Report

The following supporting documents were also considered:

- Greening Port Phillip - Various Documents
  - › An Urban Forest Approach, 2010
  - › Developing our new Urban Forest Strategy Testing the Draft Vision and Principles - Summary of Stage 1B Engagement (Draft 1, 26 September)
  - › Urban Forest Strategy Developing Evidence Based Targets. Information from Community Workshops
  - › Urban Forest Mid-Term Review and Report
  - › Urban Forest Strategy Stages 1, 1B, 2, & 2A Engagement Findings Report
  - › Urban Forest Strategy Strategic Directions: Inclusion of Community engagement feedback on the Vision and Principles
- Nature Strip Guidelines, 2022. Analysis of phase one community engagement results
- Draft Public Space Strategy - Summary Engagement Report, 2020
- City of Port Phillip Housing Strategy Phase 3 - Feedback on the Draft Strategy Engagement Report
- Street Tree Planting Program, 2017-2022
- Permeability Baseline Assessment and Tool Development
- Permeability in the Private Realm
- Draft Public Space Strategy Summary Engagement Report
- South Melbourne Street Tree Planting
- City of Port Phillip Tree Ledger
- Protecting Vegetation in the Private Realm- Discussion Paper
- Cooling South Melbourne.
- Green Line Proposal (Green Line Alliance), 2022
- Biodiversity Study and Action Plan - Background Research Discussion Paper, 2020
- Biodiversity Study and Action Plan - Implementation Plan, 2020
- Dank St Biolink Engagement Summary Report
- Tree Maintenance on Canterbury Road and Ferrars Street, 2024
- Palm Tree Removal (Fusarium Wilt)
- Land Acquisitions for New Open Space
- Port Phillip Planning Scheme

STRATEGIC CONTEXT MAPS

The strategic and policy aspirations for the study area have been summarised under three themes:

- Placemaking, land use and development
- Movement networks
- Green and blue functions.

The UFPP examines how each category contributes to the broader goals of the project, considering factors such as density, sustainable transport, public realm activation, and the integration of green spaces. Through this integrated approach, the design solutions within the UFPP will be contextually appropriate and achievable.



URBAN FOREST STRATEGY, 2024-2040

The City of Port Phillip's Urban Forest Strategy (2024 to 2040) provides a comprehensive framework for the development and management of Port Phillip's urban forest. The urban forest encompasses all trees, shrubs, and groundcovers on both public and private land, including gardens, parks, green roofs, and industrial areas. The Urban Forest Strategy highlights the importance of greenery in enhancing quality of life, boosting biodiversity and habitat, reducing air pollution, mitigating heat and flood risks, reducing stormwater costs, and increasing property values. Urban vegetation also creates employment opportunities and can be an important way of reflecting the indigenous landscape of the place.

Developed with community input, the Urban Forest Strategy outlines a vision where vegetation and green spaces are healthy and abundant, biodiversity is valued and supported, and nature connects people.

The Strategy is structured around five guiding principles:

1. Prioritising tree retention and introducing resilient plant species to address climate vulnerabilities.
2. Fostering collaboration among Council, community, and industry partners to care for urban greenery.
3. Emphasising biodiversity and habitat creation.
4. Investing in integrated urban greening across various landscape types.
5. Valuing the urban forest as a long-term asset critical to community well-being and neighbourhood character.

The Strategy also identifies key challenges to a healthy urban forest, such as climate change, urban heat, invasive weeds and plant diseases, human population growth pressures, spatial constraints, and biodiversity loss.

The Strategy offers a comprehensive body of research that supports canopy targets, and details approaches to vegetation diversity, water management and sustainable use of maintenance resources.

This provides the framework within which the Urban Forest Precinct Plans will operate, by honing in to a more detailed proposal for improving the urban forest.

The core objectives of the Urban Forest Strategy are:

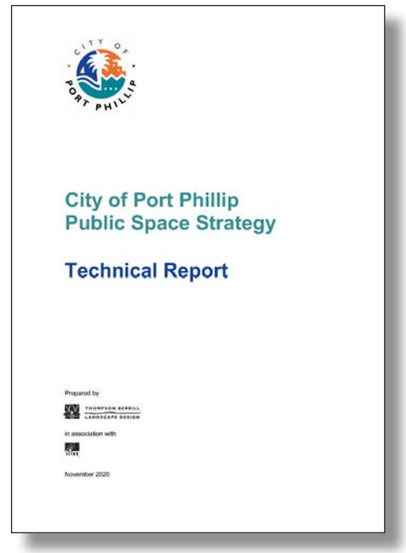
- Increased canopy cover on public and private land for a liveable, sustainable, equitable and vibrant city.
- A cooler and greener city, which is resilient to more severe weather and changes in rainfall.
- Our community is engaged, trees and plants are valued, and we build partnerships to green our urban environment across all land types.
- A well-managed forest, including healthy trees and tree quality, pest and disease management and succession planning for iconic species and locations.
- A biodiverse urban forest with diverse species, healthy ecosystems, and habitat.

The UFPP supports these objectives by providing details on how to implement increased trees and biodiversity outcomes.









CITY OF PORT PHILLIP HOUSING STRATEGY (2024-2039)

The City of Port Phillip Housing Strategy sets out a 15-year plan to guide housing growth while strengthening resilience, quality of life, and community diversity. It designates areas for substantial, moderate, incremental, and minimal change, aligning with broader Council strategies on transport, economic growth, and sustainability.

UFPP Considerations:

- Areas marked for substantial change, such as the Carlisle Street Major Activity Centre (MAC), present opportunities to integrate street tree planting and urban greening as part of the gradual changes.
- Property consolidation in areas of growth may allow for increased canopy cover through coordinated landscaping and open space initiatives.
- Streets experiencing minimal change provide stability for long-term tree planting and maintenance strategies.

INTEGRATED TRANSPORT STRATEGY (2018-2028)

The Integrated Transport Strategy outlines a 10-year plan to improve transport connections within the City of Port Phillip. It prioritises sustainable and active transport, improves public transport access, and optimises infrastructure to accommodate population growth while preserving quality of life.

UFPP Considerations:

- Streets must balance canopy expansion with maintaining space for trams, buses, active transport and private vehicles.
- Opportunities exist to explore increased tree planting along transport routes identified in the Strategy to encourage cycling, walking and public transport usage across CoPP.
- Where land is not managed by Council such as state roads and rail, the UFPP will identify advocacy opportunities.
- The UFPP informs integrated transport planning by identifying streetscape interventions that enhance safety, shade, cooling, and overall user experience.

PLACES FOR PEOPLE - PUBLIC SPACE STRATEGY (2022–2032)

The Places for People – Public Space Strategy provides a vision for enhancing public spaces in Port Phillip. It establishes principles ensuring public spaces are equitable, abundant, versatile, and innovative.

UFPP Considerations:

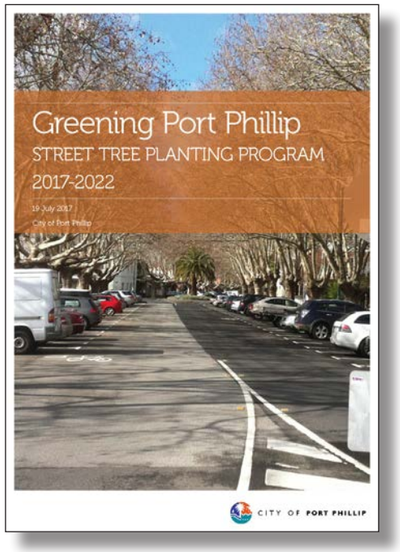
- Several streets, including Armstrong Street, Mills Street, Montague Street, Bridport Street, Moubray Street, Acland Street, and Eildon Road are identified for additional street trees to improve canopy cover and pedestrian experience.
- The strategy supports the integration of more tree planting within new public spaces, such as those being acquired by CoPP (e.g., 43, 49, 49A, and 51 Pakington Street, and 15 Marriott Street).
- Opportunities exist to advocate to Parks Victoria for better neighbourhood open space east of Lakeside Drive to support recreation and social connection, and upgrade paths west while retaining mature trees and natural character.
- Initiatives such as temporary street closures (e.g. Blessington Street between Peanut Farm and Renfrey Gardens) can create opportunities to enhance tree canopy, increase urban greening, and better link public spaces.

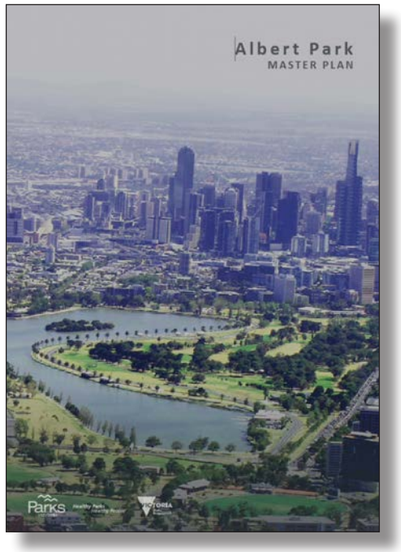
PUBLIC SPACE STRATEGY - TECHNICAL REPORT (2020)

The Technical Report informed the Public Space Strategy. It assessed current public space provision, identified future needs, and outlined guidelines for the equitable and strategic management of open spaces.

UFPP Considerations:

- The Technical Report helps to understand the broader network of open spaces and how people use and move between them. Key considerations include:
  - Beaconsfield Parade and Canterbury Road act as barriers to safe and easy access to open space, such as Albert Park Reserve and the foreshore.
  - Opportunities exist to enhance canopy cover in existing open spaces, as identified in the report, through targeted tree planting and design interventions.
  - There is an opportunity to continue strengthening and protecting Indigenous vegetation within and along the Canterbury Road Urban Forest.
  - Improve consistent avenue-style street tree planting in some streets to strengthen greening and connections between key public open spaces e.g. Armstrong Street – linking the foreshore, Armstrong Street shops, and Albert Park Reserve







GREENING PORT PHILLIP STREET TREE PLANTING PROGRAM (2017-2022)

The Greening Port Phillip Street Tree Planting Programme outlined a five-year plan to improve the City's urban forest through strategic tree planting. It supports the broader Greening Port Phillip vision by increasing canopy cover, reducing the Urban Heat Island effect, improving biodiversity, and enhancing public amenity.

UFPP Considerations:

- The UFPP can support the Programme's goal of increasing canopy cover by integrating tree planting and green infrastructure into developments.
- This strategy provided a detailed tree species list which was used as the starting point for the UFPP species lists.

ALBERT PARK MASTER PLAN (2019)

The Master Plan provides a flexible framework to guide the park's evolution under three key themes and five future directions. It focuses on adapting and activating the park to meet the changing needs of Melbourne's growing population. The three key themes are:

- Theme one: Nature and environment
- Theme two: Community connections
- Theme three: Healthy and active

UFPP Considerations:

- Note that Albert Park is managed by Parks Victoria, not Council; however, there are opportunities to collaborate with and advocate to Parks Victoria to improve canopy cover, shade provision, and climate resilience outcomes.
- Support the Albert Park Planting Strategy through increased tree planting to enhance shade, amenity, and environmental performance.
- Improve access and legibility by better defining park entrances and strengthening tree-lined avenues leading to the lake.
- Protect and celebrate the Ngargee (Corroboree) Tree as a culturally significant element of the landscape.
- Create a treed community space adjoining Fitzroy Street.

YANI BARRIPBARRIPUYT (FORMERLY SHRINE TO SEA) MASTER PLAN (2024)

Yani Barripbarripuyt will establish a new green boulevard linking Domain Gardens to Port Phillip Bay along Albert and Kerferd Roads. The project will create more usable open space, strengthen the boulevard's landscape character, and provide safer, clearer connections for walking and cycling, while celebrating local stories and history. The plan also promotes diverse, layered habitats for local fauna and enhances climate resilience through urban cooling and improved stormwater management.

UFPP Considerations:

- The Master Plan identifies eight 'Zones'. Of these, Zones 4 (Canterbury Road/Ferrars Street), 5 (Canterbury Road/ Ferrars Street & Montague Street), 6 (Richardson Street), 7 (Danks Street & Beaconsfield Parade), and 8 (Kerferd Road Pier Forecourt) fall within the Albert Park suburb and should be considered in the preparation of precinct plans.

OTHER RESOURCES

CASE STUDIES

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