Proposed Plan Change 120 - Housing Intensification and Resilience (PC120)

to the Auckland Unitary Plan (Operative in part)

SECTION 32

IMPLEMENTATION OF INTENSIFICATION DIRECTIONS FROM RESOURCE MANAGEMENT AMENDMENT ACT (2025) AND POLICY 3 OF THE NATIONAL POLICY STATEMENT – URBAN DEVELOPMENT:

EVALUATION REPORT
OCTOBER 2025

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Executive Summary

Plan Change 120 – Housing Intensification and Resilience ('**PC120**') follows the legislated requirement from central government to undertake a plan change that:

- provides at least the same amount of housing capacity that would have been enabled if PC78 (as notified) were made operative;
- enables certain heights and densities within at least a walkable catchment of five specific rapid transit stations that benefit from City Rail Link investment; and
- gives effect to policy 3 of the National Policy Statement on Urban Development 2020 (Updated May 2022) ('**NPS-UD**').

This report outlines how the council has applied the government directives. Specifically, this report covers the application of Policy 3(c) ('walkable catchments') and 3(d) ('suburban centres') of the NPS-UD and other rail station walkable catchments, as well as the application of additional height and intensified residential zonings along corridors and to the wider residential areas of Auckland.

This evaluation does not cover any qualifying matters, nor any new rules or policies. The assessment of the various qualifying matters and proposed changes to provisions for the relevant zones are contained in other section 32 reports for PC120.

Policy 3(c) – Walkable catchments

Walkable catchments in Auckland are based on the area the average person would walk to access a centre, or a rapid transit stop. This report considers various options of how to determine a walkable catchment. These range from simple radial 'ped-sheds' to advanced Geographic Information System ('**GIS**') network analysis.

The two main units to measure a walkable catchment are time and distance. Distance is often used as a proxy for time as people generally think about walking in terms of time-costs rather than specific distances (e.g. 'a 5-minute walk' rather than 'a 400m walk').

PC120 proposes to generate walkable catchments using a GIS service area analysis with a distance parameter (as a proxy for time). These catchments are based on actual roads and public accessways to create accurate walkable catchments.

However, this type of GIS analysis does not take into account various factors that influence people's propensity to walk and the distance they are prepared to do so. Therefore, modifying factors (e.g. footpath gradient and pedestrian waiting times when crossing arterial roads) were considered in the definition of each catchment.

Other modifying factors apply to refining the boundary of each walkable catchment. These seek to create logical and consistent boundaries across all Auckland's walkable catchments and minimise interface effects at the boundary.

Determining the appropriate size of a walkable catchment has been the subject of extensive research including international and local literature, Auckland Council's previous walkable catchment approaches, national guidance on walkability, census travel data for Auckland, international comparator city approaches, other tier 1 council approaches, and the Ministry for the Environment's ('**MfE**') guidance on implementing Policy 3 of the NPS-UD.

PC120 proposes to use a distance of around 800m (as a proxy for a 10-minute walk) to identify walkable catchments for Auckland's 11 metropolitan centres and 54 rapid transit stops. This is a commonly used metric used for how far people will generally walk to a centre and/or rapid transit stop. It is backed up with various research and is generally supported by MfE guidance. An 800m catchment provides a suitable amount of land for intensification around Auckland's metropolitan centres and rapid transit stops and therefore is likely to realise the benefits of a focussed area for intensification.

Auckland's 11 metropolitan centres that are proposed to have walkable catchments of around 800m applied to them are listed below.

Auckland's Metropolitan Centres (11):	
1.	Albany
2.	Botany
3.	Drury
4.	Henderson
5.	Manukau
6.	New Lynn
7.	Newmarket
8.	Papakura
9.	Sylvia Park
10.	Takapuna
11.	Westgate

Auckland's existing and planned rapid transit network comprises the three lines[1] (Western, Southern, Eastern) of the heavy rail network between Swanson and Pukekohe, including the Central Rail Link ('CRL'), the Northern Busway, and the Eastern Busway. Auckland's 43 existing (constructed and operating) rapid transit stops that are proposed to have walkable catchments of around 800m applied to them are listed below.

Auckland's existing rapid transit stops (43):	
1. Akoranga Bus Station	23. Ōrākei Train Station
2. Albany Bus Station	24. Ōtāhuhu Train Station
3. Avondale Train Station	25. Panmure Train Station
4. Baldwin Ave Train Station	26. Papakura Train Station
5. Constellation Bus Station	27. Papatoetoe Train Station
6. Ellerslie Train Station	28. Penrose Train Station
7. Fruitvale Rd Train Station	29. Puhinui Train Station

[1] The Onehunga Branch Line (Onehunga and Te Papapa stations) is not considered a rapid transit service as it is not planned to reach the frequencies required (only two trains per hour are planned).

8. Glen Eden Train Station	30. Pukekohe Train Station
9. Glen Innes Train Station	31. Rānui Train Station
10. Grafton Train Station	32. Remuera Train Station
11. Greenlane Train Station	33. Parnell Train Station
12. Henderson Train Station	34. Smales Farm Bus Station
13. Homai Train Station	35. Sturges Rd Train Station
14. Kingsland Train Station	36. Sunnynook Bus Station
15. Manukau Train Station	37. Sunnyvale Train Station
16. Manurewa Train Station	38. Swanson Train Station
17. Meadowbank Train Station	39. Sylvia Park Train Station
18. Middlemore Train Station	40. Takaanini Train Station
19. Morningside Train Station	41. Te Mahia Train Station
20. Mt Albert Train Station	42. Waitematā Train Station[2]
21. New Lynn Train Station	43. Williams Ave Bus Station
22. Newmarket Train Station	

In the context of Auckland, a rapid transit stop is considered to be 'planned' when it meets all the criteria below:

- Funding for the physical infrastructure and the service must be identified in the Regional Land Transport Plan ('**RLTP**'); and
- The route is shown as being a rapid transit network in the RLTP; and
- A Notice of Requirement (for a designation) has been confirmed for the station location.

Based on this, the 11 'planned' rapid transit stops in Auckland that are proposed to have walkable catchments of around 800m applied to them are listed below.

Auckland's planned rapid transit stops (11):		
1. Drury Train Station[3]	2026	New southern line station between Papakura and Pukekohe
2. Ngākōroa Train Station[4]	2026	New southern line station between Papakura and Pukekohe
3. Paerātā Train Station[5]	2026	New southern line station between Papakura and Pukekohe
4. Te Waihorotiu Train Station[6]	2026	New City Rail Link station
5. Karanga-a-Hape Train Station[7]	2026	New City Rail Link station

[2] Formerly Britomart Station
[3] Previously referred to as "Drury Central" or "(Te) Maketuu" station
[4] Previously referred to as "Drury West" or "Ngaakooroa" station
[5] Previously referred to as "Paeraataa" station
[6] Previously referred to as "Aotea" or "Midtown" station
[7] Previously referred to as "Karangahape" station

6. Maungawhau Train Station[8]	2026	New City Rail Link station
7. Pakūranga Bus Station	2027	New Eastern Busway station
8. Te Taha Wai Bus Station[9]	2027	New Eastern Busway station
9. Pōhatu Bus Station[10]	2027	New Eastern Busway station
10. Koata Bus Station[11]	2027	New Eastern Busway station
11. Rosedale Bus Station	2027	New Northern Busway station

In total, there are 66 walkable catchments in Auckland (when the walkable catchment for the City Centre zone is included). PC120 proposes to use a distance of around 1,200m (as a proxy for a 15-minute walk) to identify the walkable catchment for the City Centre zone. While there are not many studies on walking to very large centres, there is evidence to show people will walk further than 800m to a destination with a variety of amenities, particularly one that is the final destination for their journey or commute. The size of Auckland's city centre is significantly larger than Auckland's metropolitan centres and the amenities in the city centre are unique. The 15-minute walk time from the edge of the City Centre zone is consistent with the walkable catchments used in other tier 1 urban areas in New Zealand.

PC120 proposes that the walkable catchments are identified in the Auckland Unitary Plan (Operative in Part) (**AUP**) through a spatially demarcated layer on the planning maps called 'Walkable Catchments' and through additional text added to Chapter G.

Policy 3 (c) Determining which walkable catchments could enable additional height

Policy 3 (c) in the NPS-UD directs council to enable at least six storeys in each walkable catchment. Further the government changes to the Resource Management (Consenting and Other Systems Changes) Amendment Act 2025 (**RMA Amendment Act**) have resulted in legislative requirements to enable heights of 10 storeys in the walkable catchment of Mt Albert and Baldwin Ave Train Stations, and 15 storeys in the walkable catchments of Mangawhau[12], Kingsland, and Morningside Train Stations (five named stations).

While the NPS-UD directs at least six storeys within walkable catchments, this is not necessarily the maximum height that could be enabled. PC120 redistributes the PC78 capacity from broader suburban areas and focuses this enabled capacity in locations that are most suitable i.e. in locations that are most accessible, provide greater concentration of amenities and in locations where demand is highest. As such PC120 proposes that the height limits in some walkable catchments are increased beyond six storeys. This is consistent with the

[8] Previously referred to as "Mt Eden" station
[9] Previously referred to as "Edgewater" Bus Station
[10] Previously referred to as "Burswood" Bus Station
[11] Previously referred to as "Gossamer" Bus Station
[12] Previously referred to as "Mt Eden" station

Auckland Regional Policy Statement hierarchy of centres and its contribution to a well-functioning urban environment supporting a quality compact urban form.

Four options were considered to determine which walkable catchments could enable heights beyond six storeys. Overall, '**Option 2: Based on a Multi Criteria Analysis**' is the preferred approach. This option achieves the objective of implementing Policy 3(c) of the NPS-UD, whereby at least six storeys is enabled, and in those locations that are most appropriate ten and fifteen storeys are enabled. The options analysis includes the five named stations, however, irrespective of the conclusion of this option, it is noted that the government directed heights for the walkable catchments of these specific stations must be enabled in PC120.

The additional height is proposed to be enabled by rezoning existing residential zoned land to Terraced Housing and Apartment Buildings ('**THAB**') zone and applying a Height Variation Control ('**HVC**'). Other zones within the walkable catchments to which the HVC would apply are Business (Mixed Use, Town, Local and Neighbourhood centres, and Business Park zones (excluding the Light and Heavy Industrial Zones)).

PC120 identifies the following 22 walkable catchments for fifteen storeys (or 50m):

Walkable catchment	Type	Walkable catchment	Type
• City Centre	City Centre	• Manukau Metropolitan Centre	Metro Centre
• Karanga-a-Hape Train Station[13]	Rapid Transit	• Greenlane Train Station	Rapid Transit
• Te Waihorotiu Train Station	Rapid Transit	• Remuera Train Station	Rapid Transit
• **Waitematā** Train Station[14]	Rapid Transit	• Ōtāhuhu Train Station	Rapid Transit
• Maungawhau Train Station[15]	Rapid Transit	• Kingsland Train Station[16]	Rapid Transit
• Parnell Train Station	Rapid Transit	• Manukau Train Station	Rapid Transit
• Newmarket Metropolitan Centre	Metro Centre	• Albany Bus Station[17]	Rapid Transit
• Grafton Train Station	Rapid Transit	• Takapuna Metropolitan Centre	Metro Centre

[13] Previously referred to as "Karangahape" station
[14] Previously referred to as Britomart Station
[15] Maungawhau (previously referred to as Mt Eden) train station ranked highly within the top 20 walkable catchments; it has also been identified as part of the Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 15 storey or 50m.
[16] Kingsland train station ranked highly within the top 20 walkable catchments; it has also been identified as part of the Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 15 storey or 50m.
[17] Only Albany's rapid transit walkable catchment ranked in the top grouping and has been identified for 15 storeys, the metropolitan centre walkable catchment for Albany extends beyond the rapid transit station and was identified for 10 storey.

• Newmarket Train Station	Rapid Transit	• Henderson Metropolitan Centre	Metro Centre
• Panmure Train Station	Rapid Transit	• Morningside Train Station[18]	Rapid Transit
• Glen Innes Train Station	Rapid Transit	• Henderson Train Station[19]	Rapid Transit

PC120 identifies the following 22 walkable catchments for ten storeys (or 34.5m):

Walkable catchment	Type	Walkable catchment	Type
• Ellerslie Train Station	Rapid transit	• Baldwin Ave Train Station[20]	Rapid transit
• Ōrākei Train Station	Rapid transit	• Avondale Train Station	Rapid transit
• New Lynn Metropolitan Centre	Metro Centre	• Akoranga Bus Station[21]	Rapid transit
• New Lynn Train Station	Rapid transit	• Sylvia Park Train Station	Rapid transit
• Albany Metropolitan Centre	Metro Centre	• Westgate Metropolitan Centre	Metro Centre
• Penrose Train Station	Rapid transit	• Papatoetoe Train Station	Rapid transit
• Smales Farm Bus Station	Rapid transit	• Constellation Bus Station	Rapid transit
• Puhinui Train Station[22]	Rapid transit	• Meadowbank Train Station	Rapid transit
• Sylvia Park Metropolitan Centre	Metro Centre	• Te Taha Wai Bus Station[23]	Rapid transit
• Mt Albert Train Station [24]	Rapid transit	• Williams Ave Bus Station	Rapid transit
• Sunnynook Bus Station	Rapid transit	• Pakūranga Bus Station	Rapid transit

[18] Morningside train station was not in the top grouping based on the MCA but has been identified by Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 15 storey or 50m.
[19] The Henderson Train Station walkable catchment is encompassed completely by the Henderson Metropolitan Centre walkable catchment, so assumes the greater height of the Metropolitan Centre catchment.
[20] Baldwin Ave train station has been identified by Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 10 storey or 34.5m. Note that the parts of the Baldwin Avenue walkable catchment that overlap with Morningside Train Station walkable catchment has heights of 15 storey,
[21] Note that the part of the Akoranga Bus Station walkable catchment that overlaps with the Takapuna Metropolitan Centre catchment has a height of 15 storeys.
[22] Note that the part of the Puhinui Train Station walkable catchment that overlaps with Manukau Metropolitan Centre walkable catchment has heights of 15 storeys.
[23] Previously referred to as Edgewater Bus Station
[24] Mt Albert train station has been identified by Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 10 storey or 34.5m.

PC120 identifies the following 22 walkable catchments for six storeys (or 22m):

Walkable catchment	Type	Walkable catchment	Type
• Manurewa Train Station	Rapid Transit	• Middlemore Train Station	Rapid Transit
• Botany Metropolitan Centre	Metro Centre	• Rosedale Bus Station	Rapid Transit
• Drury Metropolitan Centre	Metro Centre	• Pōhatu Bus Station[25]	Rapid Transit
• Drury Train Station[26]	Rapid Transit	• Homai Train Station	Rapid Transit
• Papakura Train Station	Rapid Transit	• Rānui Train Station	Rapid Transit
• Sturges Rd Train Station[27]	Rapid Transit	• Swanson Train Station	Rapid Transit
• Koata Bus Station[28]	Rapid Transit	• Takaanini Train Station	Rapid Transit
• Glen Eden Train Station	Rapid Transit	• Te Mahia Train Station	Rapid Transit
• Pukekohe Train Station	Rapid Transit	• Ngākōroa Train Station[29]	Rapid Transit
• Papakura Metropolitan Centre	Metro Centre	• Paerātā Train Station[30]	Rapid Transit
• Fruitvale Rd Train Station[31]	Rapid Transit	• Sunnyvale Train Station[32]	Rapid Transit

Policy 3(d) – Suburban centres

Policy 3(d) of the NPS-UD directs intensification within and adjacent to neighbourhood, local and town centre zones. The level of intensification is directed to be 'commensurate' with the level of commercial activity and community services in the centre.

The combination of zone hierarchy, zone size, and accessibility were used as a proxy for the 'level' of activities and services in each centre. Based on this, the following types of centres have medium/high or high levels of services and activities, that may warrant intensification:

- Local Centres ('Large' in size with 'High' access)
- Town Centres ('Small' or 'Large' in size with 'High' access)

[25] Previously referred to as Burswood Bus Station
[26] Previously referred to as "Drury Central" or "(Te) Maketuu" station
[27] Note that the part of the Sturges Train Station walkable catchment that overlaps with the Henderson Metropolitan Centre catchment has a height of 15 storeys.
[28] Note that the part of the Koata Bus Station (previously referred to as Gossamer Bus Station) walkable catchment that overlaps with the Te Taha Wai Bus Station (previously referred to as Edgewater Bus Station) walkable catchment has a height of 10 storeys.
[29] Previously referred to as "Drury West" or "Ngaakooroa" station
[30] Previously referred to as "Paeraataa" station
[31] Note that the part of the Fruitvale Train Station walkable catchment that overlaps with the New Lynn Metropolitan Centre catchment has a height of 10 storeys.
[32]

Across Auckland, 57 local and town centres are within the above categories. The location of these centres is concentrated in the central isthmus and urban area of Auckland.

Intensification within centres:

This report finds that the enabled heights and densities within all neighbourhood, local, and town centres are commensurate with the levels of activities and services in those centres. Therefore, no specific amendments to the AUP provisions are recommended to implement the part of Policy 3(d) relating to heights and densities of urban form within neighbourhood, local and town centres (except for consequential changes outlined below).

Intensification adjacent to centres:

The word 'adjacent' in the context of Policy 3(d) includes properties that adjoin a centre and those that are 'close' or 'near'. In light of this, PC120 proposes that land adjacent to town and local centres is land that is around a walking distance of 400m or 200m of those town and local centres (respectively).

These distances provide a logical area adjacent to each centre for intensification based on walking distances. A distance of 400m (5 minute walk) is a widely accepted distance for how far people will walk to local services. The 400m and 200m distances reflect the more basic levels of services and activities in Local Centres zones compared to Town Centre zones.

The land adjacent to the 57 local and town centres that have medium/high or high levels of activities and services are mainly located next to Mixed Housing Suburban and Mixed Housing Urban zoned land. These zones are considered to enable 'medium' enabled heights and densities which are not commensurate with the levels of activities and services in the centres. Therefore, PC120 proposes to rezone existing residential zones adjacent to these specific town and local centres to the proposed Terrace Housing and Apartment Buildings ('**THAB**') zone. Auckland's 57 town and local centres identified for adjacent intensification are listed below.

Auckland's larger Local Centres with high access (23):		
1. Albany Village	9. Greenlane West	17. Mangere East
2. Balmoral	10. Grey Lynn	18. Meadowbank
3. Blockhouse Bay	11. Hobsonville	19. Meadowlands
4. Botany Junction	12. Jervois Road	20. Mt Roskilll
5. Chatswood	13. Kelston	21. Mt Wellington
6. Clendon	14. Kepa Road/Eastridge	22. Te Atatū South
7. Dawsons Road	15. Lynfield	23. Drury
8. Eden Valley	16. Mairangi Bay	

Auckland's Town Centres with high access (34):		
1. Avondale	13. Mangere	25. Parnell
2. Birkenhead	14. Manurewa	26. Ponsonby
3. Browns Bay	15. Milford	27. Pt Chevalier
4. Devonport	16. Mt Albert	28. Remuera
5. Ellerslie	17. Newton - Upper Symonds St	29. Royal Oak
6. Glen Eden	18. Northcote	30. St Lukes
7. Glen Innes	19. Onehunga	31. Stoddard Rd
8. Glenfield	20. Ōtāhuhu	32. Sunnynook
9. Green Lane	21. Ōtara	33. Te Atatū North
10. Highland Park	22. Pakūranga	34. Three Kings
11. Howick	23. Panmure	
12. Hunters Corner	24. Papatoetoe	

The land adjacent to the specific town and local centres under Policy 3(d) is identified in the proposed plan change maps through a spatially demarcated layer called 'Adjacent to centre – Policy 3(d)'.

Within these identified areas, PC120 proposes the THAB zone to enable a maximum height of 22m (six storeys) and in certain cases, this results in town and local centres having less height enabled than the adjacent residential zone. To reinforce centres as focal points for their communities and provide for residential intensification within centres, PC120 proposes a Height Variation Control ('**HVC**') to increase the heights in 14 town centres and 15 local centres to 22m. Furthermore, any Neighbourhood Centre or Mixed Use zone within a Policy 3(d) area is proposed to have a HVC applied to enable heights of 22m.

Other residential intensification: Corridors

Residential intensification along corridors is not currently a requirement of the RMA or the NPS-UD but it aligns with Auckland's strategic growth direction of a compact urban form and is proposed in PC120 as a method to achieve the plan enabled capacity requirement from government. Intensification responses along corridors sit outside of the Policy 3(c) walkable catchments and Policy 3(d) areas.

While the intensification response under Policy 3 of the NPS-UD focuses on intensification around nodes (centres and rapid transit stops), corridors are a form of linear intensification between these nodes along frequent transit routes that complement the overall strategy of a compact urban form.

Auckland's corridors are based on the 2031 Frequent Transit Network.[33] This was split into 69 segments or corridors. The corridors were ranked using a multi-criteria analysis and 24 corridors were identified as being most suitable for intensification. PC120 proposes to rezone existing residential zoned land along these corridors to the proposed THAB zone and apply HVCs over some other zones to enable heights of 22m (e.g. Business Mixed Use zone, Neighbourhood Centre zone).

The width of residential intensification along the selected corridors is around a 200m 'straight line' buffer (or approximately one block). This method recognises the limited timeframes to prepare PC120 and is often similar to a 400m distance using walkable networks.

This land along the selected corridors is identified in the proposed plan change maps through a spatially demarcated layer called 'Frequent Transit Corridor Zoning'. This layer is for reference only and is not proposed to form part of the operative AUP planning maps. It appears only outside of Policy 3(c) and 3(d) areas. Auckland's corridors identified for intensification are listed in the table below.

Map #[34]	Corridor (24)	Length (km)	FTN Route Name(s)
38	Onehunga - Newmarket (Manukau Rd)	5.49	30
37	St Johns - Remuera - Newmarket	5.28	75
23	Ellerslie - Greenlane	1.52	70
48	Great North Road (Ponsonby to Motat)	3.05	18, 11
47	St Lukes to Great North Rd (via Morningside and Kingsland)	2.79	20
51	Great North Road (Pt Chev, Avondale, New Lynn)	6.04	18,11
22	Panmure - Ellerslie	3.88	70, 72X
44	Sandringham Rd (Newton to Sandringham)	4.74	24
63	Smales Farm – Takapuna – Milford	4.68	82
43	Dominion Road (Mt Eden to Mt Roskill)	5.31	25
42	Mt Eden to Three Kings (Mt Eden Rd)	5.21	27
17	New Lynn to Henderson	5.83	14
24	Greenlane - Western Springs (Via Balmoral)	9.16	65
40	Greenlane East (Remuera Rd to Greenlane)	1.53	65
41	Mt Eden to Sandringham Rd via Valley Rd Shops	2.00	64
45	New North Road (Morningside to Avondale)	4.83	22
64	Northcote – Takapuna	5.93	94
8	Panmure - Mt Wellington - Sylvia Park	2.40	74
2	Botany to Manukau (via Ormiston)	11.13	35
39	Glenfield - Birkenhead	4.96	95
56	Howick to Botany (via Meadowlands, Botany Rd)	6.89	72
6	Papatoetoe - Ōtāhuhu - Sylvia Park	6.44	32
49	St Marys Bay to Ponsonby	2.27	INN
65	Verrans Corner to Onewa Road	4.64	97

[33] .As included in the Regional Public Transport Plan 2023-2031 (RPTP).
[34] Refer to Figure 44 for numbered map of all corridors.

Other residential intensification: Residual residential area

The residual residential areas of Auckland are the largest area covered by PC120 for intensification rezonings and include all land zoned Single House, Mixed Housing Suburban, and Mixed Housing Urban in the Auckland region except:

- Land within walkable catchments – Policy 3(c)
- Land in intensification areas adjacent to town and local centres – Policy 3(d)
- Land upzoned within a 'corridor'
- Land in any rural town or village (except in the towns of Warkworth, Pukekohe, and Waiuku)

While the Policy 3(c), Policy 3(d), and corridors all introduce significant new residential intensification, further capacity beyond these measures is required to meet the government directed capacity. Therefore, this report evaluates intensification options for this wider residential area.

PC120 proposes to apply either the Mixed Housing Suburban or Mixed Housing Urban zone to all residual residential land based on a measure of each area's accessibility. Accessibility can be calculated using an access score from Auckland Council's Framework for Urban Access ('**FUA**'). In the FUA, accessibility is measured by public transport and/or walking access to a range of opportunities (e.g. jobs, people, shops, schools). The result is a comparable 'access score' between 0 (low) and 1 (high) across the urban area of Auckland (see **Appendix 2** for further details on the FUA).

A score of 0.5 is used as the threshold for the application of Mixed Housing Suburban (below) or Mixed Housing Urban zone (above). This option meets the plan enabled capacity directions of the government while also aligning with the broader compact city approach (by being based on accessibility).

The automated GIS conversion of access scores directly to zonings results in a zoning pattern that appears to be based on site-by-site information. However, the access scores are in fact a broader measure of accessibility that are more representative of a generalised area, than a specific property. Therefore, a cohesive zoning exercise has been used in PC120 to more logically bring the interface of the Mixed Housing Suburban and Mixed Housing Urban zones to recognised boundaries such as roads, blocks, parks, or walkways. This has often resulted in extending the spatial extent of the Mixed Housing Suburban zone to more logical and legible boundaries.

Order in applying Policy 3(c), 3(d), corridors, and residual residential area

Intensification responses were applied using a sequenced method as there are many areas that overlap between the walkable catchments, land adjacent to suburban centres, corridors, and other residential land.

The sequenced method results in the highest intensification response taking primacy, so the application of Policy 3(c) walkable catchments was applied first. This is because Policy 3(c) includes a directive for at least 6 storeys to be enabled, and for five catchments there is a

legislative directive to enable at least 10 or 15 storeys. None of the other intensification methods covered in this report have a minimum height response. The walkable catchment boundaries are clearly identified on the planning maps. Where two walkable catchments overlap, the catchment with the higher enabled heights overrides the lower height of the neighbouring catchment (for that overlapping area only). Qualifying Matters, that may modify, or reduce, the building heights or densities required by the NPS-UD or the RMA, apply within the mapped walkable catchments.

Policy 3(d) which is applied to intensify within and adjacent to neighbourhood, local and town centres was applied next. Where a Policy 3(d) area overlapped with a 3(c) walkable catchment, the intensification response for the Policy 3(c) walkable catchment prevailed. The 'Adjacent to centre – Policy 3(d)' areas are shown in full on the planning maps, even where they may be partially or totally encompassed by a walkable catchment.[35] Qualifying Matters apply within 3(d) areas.

Intensification along corridors was applied next – noting that corridors are not required to be intensified under the NPS-UD. This means that corridors are mapped and have an intensification response (upzoning/height) only where the corridor is outside of the Policy 3(c) and 3(d) areas.

Finally, the Mixed Housing Urban and Mixed Housing Suburban zones were applied to the residual residential area of Auckland. This did not include any areas already covered above through Policy 3(c), or Policy 3(d), or the FTN corridors.

Qualifying Matters only apply within Policy 3(c) and 3(d) areas. Outside of these areas (within corridors and the residual residential area) the intended intensification zoning response can be reduced by various planning constraints (e.g. flooding, special character areas, Significant Ecological Areas) and/or the cohesive zoning overview.

[35] This is to show clearly where Qualifying Matters apply. Another reason the full boundaries of Policy 3(d) areas are shown on the planning maps is to be transparent about the NPS-UD Policy 3 intensification directives in the way that they may apply to land. For example, should the walkable catchment area be reduced through the submissions/hearing process, it is still clear from the maps that for any land no longer covered by a walkable catchment, a Policy 3(d) area may still apply.

Area	Legislated directive?	Name	Intensification response	Map layer	Potential for lower height and/or density
NPS-UD Policy 3(c) and 3(d) areas	Yes - Policy 3(c) NPS-UD	Walkable Catchments	THAB (15 storeys) – 22 WCs** THAB (10 storeys) – 22 WCs*** THAB (6 storeys) – 22 WCs HVCs over some other zones to match height	'Walkable Catchment - Policy 3(c)'	By Qualifying Matter only
	Yes - Policy 3(d) NPS-UD	Suburban Centres	THAB (6 storeys) HVCs over some other zones to match height	'Adjacent to centre – Policy 3(d)'	By Qualifying Matter only
Other residential areas	No*	Corridors	THAB (6 storeys) HVCs over some other zones to match height	'Frequent Transit Corridor Zoning'	Planning constraints and cohesive zoning response
	No*	Residual residential area	Mixed Housing Suburban or Mixed Housing Urban – depending on access score	No boundaries shown	Planning constraints and cohesive zoning response

*Aside from general legislative requirement to meet the same or more capacity as PC78.

**Including legislated stations – Maungawhau (previously Mt Eden), Kingsland, Morningside.

***Including legislated stations – Baldwin Ave, Mt Albert.

1 Introduction

This report is prepared as part of the evaluation required by Section 32 ('**s32**') of the Resource Management Act 1991 ('**RMA**' or '**the Act**') as amended by the Resource Management (Consenting and Other System Changes) Amendment Act 2025 for proposed Plan Change 120 – Housing Intensification and Resilience ('**PC120**') to the Auckland Unitary Plan (Operative in Part) ('**AUP**').

The 2025 amendment to the RMA introduces a bespoke process to enable Auckland Council to withdraw its intensification planning instrument (also known as Plan Change 78 ('**PC78**')).

The decision to withdraw PC78(in part) was publicly notified on 9 October 2025. The Council sent a clause 75A notice to the Minister on 2 October, seeking to use the streamlined planning process for PC120. Schedule 3C of the RMA requires that the Council must amend the Auckland Unitary Plan with a replacement plan change, to provide at least the same housing capacity as PC78 (as notified) were made operative. PC120 enables certain heights and densities within a walkable catchment of stations that benefit from City Rail Link investment and give effect to the intensification policies of the National Policy Statement on Urban Development ('**NPS-UD**').

1.1 Section 32 Evaluation

Section 32 of the Act requires that before adopting any objective, policy, rule or other method, the Council shall carry out an evaluation to examine:

- The extent to which each objective is the most appropriate way to achieve the purpose of the Act, and
- Whether, having regard to their efficiency and effectiveness, the policies, rules or other methods are the most appropriate for achieving the objective.

The evaluation must also take into account:

- The benefits and costs of policies, rules, or other methods; and
- The risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules or other methods.

1.2 The evaluation approach

This section outlines how the council's application of the following government directives for PC120 have been evaluated:

- provide at least the same amount of housing capacity that would have been enabled if PC78 (as notified) were made operative

- enable at least 15 storeys within a walkable catchment of Maungawhau[36] Kingsland and Morningside stations, and at least 10 storeys within a walkable catchment of Mount Albert and Baldwin Ave stations
- give effect to policy 3 of the National Policy Statement on Urban Development (NPS-UD).

This report covers the application of Policy 3(c) and 3(d) of the NPS-UD and the application of residential zonings along corridors and to the residual residential areas of Auckland.

The rest of this report will follow the evaluation approach described in the table below. In accordance with section 32(6) of the RMA and for the purposes of this report:

- The 'proposal' means the council's proposed method to implement Policy 3(c) and 3(d) of the NPS-UD and other residential intensification required to provide at least the same amount of housing capacity as PC78. It includes:

    - Policy 3(c):
        - How to determine a walkable catchment
        - What size is a walkable catchment
        - Determining which walkable catchments are suitable for additional height

    - Policy 3(d):
        - How to measure the level of commercial activity and community services in neighbourhood, local and town centre zones
        - Where 'adjacent' is in relation to neighbourhood, local, and town centre zones
        - How to enable heights and densities of urban form that are commensurate with the level of activities and services within and adjacent to each of the centres
        - How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

    - Other residential intensification: Corridors
        - How to determine which corridors are most suitable for residential intensification?
        - How wide should residential intensification apply along a corridor?

    - Other residential intensification: Residual residential land
        - What zonings should apply across the residual residential area?

- The 'objectives' means the objective of the plan change, which in the context of this s32 report is to implement the intensification directives of Policy 3(c) and 3(d) of the NPS-UD and in the RMA as amended (2025), as further set out in the section 32 report titled, 'Overview Evaluation Report'; and

- The 'provisions' in the context of this s32 report means the proposed map layers (e.g. changes to zoning; management layers such as 'Walkable Catchment - Policy 3(c)' and

[36] Previously referred to as "Mt Eden" station

'Height Variation Control/Height Variation Control* (see D14.6.2)') and text changes[37] to the AUP in PC120. The layers titled, 'Adjacent to Centre - Policy 3(d)', 'Frequent Transit Corridor Zoning' shown on the proposed plan change maps are for reference only and are not proposed to form part of the operative AUP planning maps.

Figure 1 below, summarises the evaluation approach and structure of this section 32 report.

Sections of this report	Evaluation Approach
Section 2: Issues	This part of the report explains the resource management issues and why there is a need to resolve them.
Section 3: Reasons for the proposed plan change	This section outlines the reasons for PC120 and the scope of PC120, including those issues that do not have the scope or need for an options analysis.
Section 4: National and Regional planning context	This part of the report cross-refers to the PC120 s32 Overall Evaluation Report which evaluates the relevance of PC120 against the national and local planning context.
Section 5: NPS-UD Policy 3(c) and (d) - development and evaluation of options	In accordance with section 32(1)(b) and (2) of the RMA, this section examines whether the options appropriately achieve the objectives and the sustainable management purpose of the RMA. The options are assessed in terms of their efficiency and effectiveness, costs, benefits and risks to resolve the RMA issue.
Section 6: Other residential intensification - context	This section provides a preface the following sections 7 and 8, outlining the approach to residential intensification beyond Policy 3 areas.
Section 7: Other residential intensification: Corridors - development and evaluation of options	In accordance with section 32(1)(b) and (2) of the RMA, this section examines whether the options appropriately achieve the objectives and the sustainable management purpose of the RMA. The options are assessed in terms of their efficiency and effectiveness, costs, benefits and risks to resolve the RMA issue.
Section 7: Other residential intensification: Residual residential area - development and evaluation of options	In accordance with section 32(1)(b) and (2) of the RMA, this section examines whether the options appropriately achieve the objectives and the sustainable management purpose of the RMA. The options are assessed in terms of their efficiency and effectiveness, costs, benefits and risks to resolve the RMA issue.
Section 9: Development of the plan change	This part of the report cross-refers to the PC120 s32 Overall Evaluation Report which outlines the methodology and development of PC120.
Section 10: Conclusion	This part of the report concludes that the implementation of Policy 3 and other residential intensification through PC120 is the most efficient, effective and appropriate means of addressing the resource management issues identified.

Figure 1: Overview of s32 report sections

[37] This s32 report covers map changes. Changes to the text of the AUP are covered in separate s32 reports.

The s32 evaluation report will continue to be refined in response to any consultation feedback provided to the council, and in response to any new information received.

2 Issues

2.1 Implementation of Government directives for intensification

PC120 follows the central government mandated requirements[38] as outlined in section 1.2 above.

PC120 proposes wide scale and significant changes to the zonings across Auckland's urban zoned land, particularly residential zones. In addition, PC120 also proposes significant changes to some of the main zone provisions in the AUP text (objectives, policies, rules).

This report only covers the response to NPS-UD policy 3(c) and 3(d) and the application of other intensification zonings across Auckland (i.e. corridors and the residual residential area). This report does not cover the application of any qualifying matters under Policy 4 of the NPS-UD or any specific changes to policies or rules of the AUP.

Qualifying matters are covered broadly in the PC120 s32 Overall Evaluation Report, and in more detail in various other s32 reports.

2.2 Providing the same capacity as PC78

The RMA Amendment Act 2025 enables Auckland Council to withdraw PC78 and prepare a new plan change. However, the Act stipulates that the AUP must provide at least the same amount of housing capacity that would have been enabled if PC78 (as notified) were made operative.

PC120 addresses natural hazard risks and removes the Medium Density Residential Standards ('**MDRS**') which reduce the plan enabled capacity from PC78. Therefore, a key challenge of PC120 is to redistribute plan enabled capacity from PC78 (across the wider residential area) into the most appropriate areas.

The different options to achieve this required plan enabled capacity are outlined further in sections 6 to 9 of this report.

[38] Schedule 3C 4(1) of the RMA Amendment Act (2025).

2.3 Enabling certain heights within a walkable catchment of certain train stations

The RMA Amendment Act 2025 directs Auckland Council to enable at least 15 storeys within a walkable catchment of Maungawhau[39] , Kingsland and Morningside stations, and at least 10 storeys within a walkable catchment of Mount Albert and Baldwin Ave stations.

Heights enabled within all 66 walkable catchments across Auckland were reviewed for PC120 and the specific stations legislated for 10 or 15 storeys are addressed in section 6 of this report where all heights in walkable catchments are considered.

2.4 Policy 3(c) and 3(d) of the NPS-UD

The NPS-UD directs the council to enable intensification in specific areas within Auckland (a tier 1 urban environment) as outlined below.

> "Policy 3: In relation to tier 1 urban environments, regional policy statements and district plans enable:…
>
> (c) building heights of at least 6 storeys within at least a walkable catchment of the following:
>
> (i) existing and planned rapid transit stops
> (ii) the edge of city centre zones
> (iii) the edge of metropolitan centre zones; and
>
> (d) within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and densities of urban form commensurate with the level of commercial activity and community services."

Section 55 of the RMA requires the council to amend its plans so that they can give effect to any provision in a national policy statement that affects the document. Policy 3 is a list of directives for tier 1 councils as to how their plans need to enable heights and density of urban form in specific areas. These directions are mandatory and therefore the council cannot broadly consider other options (i.e. options to not enable the required intensification in the AUP). The council must simply implement the higher-level directives of the NPS-UD.

While the overall implementation of Policy 3(c) and 3(d) is not optional for the council, the wording of Policy 3 does give the council some scope as to *how* the policies are implemented. This relates to how specific parts of the policy are interpreted and how specific words or phrases are defined/interpreted. It is noted that the RMA Amendment Act 2025 directs Auckland Council to enable certain heights in five specific locations.

The different options for how to apply Policy 3(c) and 3(d) to the AUP are outlined further in section 6 of this report.

[39] Previously referred to as "Mt Eden" station

3 Reasons for the proposed plan change

PC120 has two key objectives – it proposes:

- measures to better manage significant risks from natural hazards region-wide; and
- an amended approach to managing housing growth as a result of no longer incorporating the medium density residential standards (MDRS), but providing for intensification in a way that complies with clause 4 of Schedule 3C of the RMA by:

    - providing at least the same amount of housing capacity as would have been enabled if Plan Change 78:Intensification (PC78), as notified, was made operative, including by providing for additional intensification along selected Frequent Transit corridors and modifying zoning in suburban areas through an amended pattern of Residential - Mixed Housing Urban and Mixed Housing Suburban zones;

    - enabling the building heights and densities specified in clause 4(1)(b) and (c) of Schedule 3C of the RMA within at least the walkable catchments of Maungawhau[40] Kingsland, Morningside, Baldwin Avenue and Mt Albert Stations;

    - giving effect to Policy 3 (c) and 3(d) of the National Policy Statement on Urban Development 2020 (NPS-UD) through intensification in other walkable catchments and land within and adjacent to neighbourhood, town and local centres;

    - enabling less development than that required by clause 4(1)(b) and (c) of Schedule 3C or Policy 3 of the NPS-UD where authorised to do so by clause 8 of schedule 3C.

The focus of this s32 report is on the implementation of Policy 3(c) and (d) and the application of other intensification zonings across Auckland along corridors and the residual residential area for the AUP to meet the required housing capacity.

3.1 Policy 3 directions with the scope and need for an options analysis

Some parts of Policy 3 provide scope for the council to consider a range of options in implementing that part of the policy. The parts of Policy 3 that have had an options assessment are listed below and the full options assessment is in section 6 of this s32 document.

- Policy 3(c):
    - How to determine a walkable catchment

[40] Previously referred to as “Mt Eden” station

- What size is a walkable catchment
- Determining which walkable catchments are suitable for additional height

- Policy 3(d):
  - How to measure the level of commercial activity and community services in neighbourhood, local and town centre zones
  - Where 'adjacent' is in relation to neighbourhood, local, and town centre zones
  - How to enable heights and densities of urban form that are commensurate with the level of activities and services within and adjacent to each of the centres
  - How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

3.2 Policy 3 interpretation matters with no scope or need for an options analysis

Some of the implementation of the wording of Policy 3 does not require options to be considered as the meaning of the words or phrases are clear. Examining other options in these cases would be overly onerous and would achieve little benefit.

A detailed analysis of these matters is included in **Appendix 1** and below is a summary of why no further options have been deemed necessary to consider for these matters relating to the implementation of Policy 3.

3.2.1 What is Auckland's 'urban environment'?

Auckland Council has interpreted the 'urban environment' in the context of Auckland to include "All land zoned residential, business and adjoining special purpose zones and open space zones as identified in the AUP and the Hauraki Gulf Islands District Plan which includes metropolitan Auckland, all towns, and all rural and coastal towns and villages." Further discussion around this is included in **Appendix 1** and the PC120 s32 Overall Evaluation Report.

3.2.2 What are 'equivalent' zones?

The 'equivalent' National Planning Standard zones in the AUP and the Operative Auckland Council District Plan – Hauraki Gulf Islands District Plan (2018) ('**HGI Plan**') are listed in Figure 2 below:

National Planning Standards zone	AUP zone	HGI Section zone
City Centre zone	City Centre zone	N/a
Metropolitan centre zone	Metropolitan centre zone	N/a
Town Centre zone	Town Centre zone	N/a

Local Centre zone	Local Centre zone	Commercial 2 (Ostend village) Matiatia (gateway)
Neighbourhood Centre zone	Neighbourhood Centre zone	Commercial 1 (Oneroa village) Commercial 3 (Local shops) Commercial 4 (visitor facilities) Tryphena (local retailing area) Claris (local retailing area) Okiwi (local retailing area) Port Fitzroy (local retailing area)

Figure 2: The 'equivalent' zones to those in the National Planning Standards

As at notification of PC120 the AUP contains one City Centre zone, 11 Metropolitan Centre zones, 45 Town Centre zones, 75 Local Centre zones, and over 400 Neighbourhood Centre zones. Further discussion around equivalent zones is included in **Appendix 1**.

3.2.3 What does 'in' and 'within' mean?

The use of the word "in" in Policy 3 denotes all land that is *zoned* City Centre or Metropolitan Centre in the AUP.

In relation to Policy 3(c) the use of the word "within" denotes all land that is inside the walkable catchments. In relation to Policy 3(d) it denotes all land that is zoned Neighbourhood Centre zone, Local Centre zone, and Town Centre zone in the AUP.

3.2.4 Where is the edge of the City Centre zone and the Metropolitan Centre zones?

The Ministry for the Environment ('**MfE**') guidance[41] on implementing the NPS-UD states that the 'edge' is the outside edge of the parcels, or groups of parcels, zoned as either City Centre zone or Metropolitan Centre zone, including any streets or open space that may be within that area.

Auckland Council has followed the intention of the guidance but rather than identify a continuous 'edge' the council has plotted 'entrance points' along the edge of the centre zones to enable walkable catchments to be generated in GIS more efficiently, while still following the intention of the guidance. Further discussion around this is included in **Appendix 1**.

3.2.5 What does 'building heights' mean?

Based on reference to the definitions in the National Planning Standards, 'building heights' is the vertical distance (height) of a physical construction (building) that is located on land.

3.2.6 What does 'at least six storeys' mean?

The AUP height standards are not calculated in storey units, but rather are measured in metres. To enable a 'viable' six storey building in a walkable catchment, a height of 22m is required. Further discussion around this is included in **Appendix 1**.

[41] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment

3.2.7 What does 'density of urban form' mean?

The AUP contains various provisions that relate directly to density such as rules around how many dwellings are permitted per site. However, to genuinely enable additional density it is not just the rules specifically related to density of dwellings on a site that need to be considered. The full package of controls that affect total development space need to be considered such as gross floor area ('**GFA**'), yard and podium setbacks, and recession planes. Further discussion around this is included in **Appendix 1**.

3.2.8 What is a rapid transit service?

Auckland's existing and planned rapid transit network comprises:

- the three lines[42] (Western, Southern, Eastern) of the heavy rail network between Swanson and Pukekohe, including the Central Rail Link ('CRL').
- the Northern Busway.
- the Eastern Busway.

Further discussion around this is included in **Appendix 1**.

3.2.9 What are Auckland's 'existing' rapid transit stops?

Based on the interpretation of Auckland's rapid transit services, the 43 'existing' (constructed and operating) rapid transit stops in Auckland are:

1. Akoranga Bus Station	23. Ōrākei Train Station
2. Albany Bus Station	24. Ōtāhuhu Train Station
3. Avondale Train Station	25. Panmure Train Station
4. Baldwin Ave Train Station	26. Papakura Train Station
5. Constellation Bus Station	27. Papatoetoe Train Station
6. Ellerslie Train Station	28. Penrose Train Station
7. Fruitvale Rd Train Station	29. Puhinui Train Station
8. Glen Eden Train Station	30. Pukekohe Train Station
9. Glen Innes Train Station	31. Rānui Train Station
10. Grafton Train Station	32. Remuera Train Station
11. Greenlane Train Station	33. Parnell Train Station
12. Henderson Train Station	34. Smales Farm Bus Station
13. Homai Train Station	35. Sturges Rd Train Station
14. Kingsland Train Station	36. Sunnynook Bus Station
15. Manukau Train Station	37. Sunnyvale Train Station
16. Manurewa Train Station	38. Swanson Train Station

[42] The Onehunga Branch Line (Onehunga and Te Papapa stations) is not considered a rapid transit service as it is not planned to reach the frequencies required (only two trains per hour are planned).

17. Meadowbank Train Station	39. Sylvia Park Train Station
18. Middlemore Train Station	40. Takaanini Train Station
19. Morningside Train Station	41. Te Mahia Train Station
20. Mt Albert Train Station	42. Waitematā Train Station[43]
21. New Lynn Train Station	43. Williams Ave Bus Station
22. Newmarket Train Station	

3.2.10 What are Auckland's 'planned' rapid transit stops?

In the context of Auckland, a rapid transit stop is considered to be 'planned' when it meets all the criteria below:

- Funding for the physical infrastructure and the service must be identified in the Regional Land Transport Plan ('**RLTP**'); and
- The route is shown as being a rapid transit network in the RLTP; and
- A Notice of Requirement (for a designation) has been confirmed for the station location.

Based on this, the 11 'planned' rapid transit stops in Auckland are:

1. Drury Train Station[44]	2026	New southern line station between Papakura and Pukekohe
2. Ngākōroa Train Station[45]	2026	New southern line station between Papakura and Pukekohe
3. Paerātā Train Station[46]	2026	New southern line station between Papakura and Pukekohe
4. Te Waihorotiu Train Station[47]	2026	New City Rail Link station
5. Karanga-a-Hape Train Station[48]	2026	New City Rail Link station
6. Maungawhau Train Station[49]	2026	New City Rail Link station
7. Pakūranga Bus Station	2027	New Eastern Busway station
8. Te Taha Wai Bus Station[50]	2027	New Eastern Busway station
9. Pōhatu Bus Station[51]	2027	New Eastern Busway station
10. Koata Bus Station[52]	2027	New Eastern Busway station
11. Rosedale Bus Station	2027	New Northern Busway station

In total there are **54** 'existing and planned rapid transit stops' in Auckland.

[43] Formerly Britomart Station
[44] Previously referred to as "Drury Central" or "(Te) Maketuu" station
[45] Previously referred to as "Drury West" or "Ngaakooroa" station
[46] Previously referred to as "Paeraataa" station
[47] Previously referred to as "Aotea" or "Midtown" station
[48] Previously referred to as "Karangahape" station
[49] Previously referred to as "Mt Eden" station
[50] Previously referred to as Edgewater Bus Station
[51] Previously referred to as Burswood Bus Station
[52] Previously referred to as Gossamer Bus Station

There are also a number of what could be termed 'future' rapid transit stops[53] in Auckland. These have some planning underway, but as yet do not meet the criteria listed above for being deemed a 'planned rapid transit stop'. Therefore, it would be premature to identify walkable catchments within a walkable catchment of these stops under Policy 3(c).

These stops relate to future rapid transit service projects such as the Airport to Botany Bus Rapid Transit and Te Ara Hauāuru – Northwest Busway. While designations are in place for most stations in these projects, the funding of these projects is not certain within the next 10 years. The Botany station of the Eastern Busway project is also considered a 'future' rapid transit stop as there is currently no designation in place to lock down the specific location of the station.

The locations that could be considered 'future' rapid transit stops in Auckland that are the most advanced in their planning are listed in **Appendix 1** and primarily relate to the Northwestern Busway and Airport to Botany projects.

PC120 does not seek to identify a walkable catchment for these potential stations or any other 'future' rapid transit stops under Policy 3(c).

However, the implementation of the NPS-UD is not a 'once only' opportunity under PC120. The AUP will still need to "give effect" to the NPS-UD going forward. Therefore, further plan changes in the future will be necessary to identify walkable catchments for these stations, once they meet the criteria of a 'planned rapid transit stop'. Further discussion around this is included in **Appendix 1**.

4 National and Regional Planning Context

PC120 is occurring at a time of significant reform of the RMA and housing policy more generally. More details on this can be found in the "Strategic Context" section in the PC120 s32 Overall Evaluation Report.

5 NPS-UD Policy 3(c) and (d) - Development and evaluation of options

5.1 Overview

5.1.1 Scope of options for Policy 3(c) and (d)

Some parts of Policy 3 provide scope for the council to consider a range of options in implementing that part of the policy.

The parts of Policy 3 that have had an options assessment are listed below.

[53] This is not a term referred to in the NPS-UD

- Policy 3(c):
    - How to determine a walkable catchment
    - What size is a walkable catchment
    - Determining which walkable catchments are suitable for additional height

- Policy 3(d):
    - How to measure the level of commercial activity and community services in neighbourhood, local and town centre zones
    - Where 'adjacent' is in relation to neighbourhood, local, and town centre zones
    - How to enable heights and densities of urban form that are commensurate with the level of activities and services within and adjacent to each of the centres
    - How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

Note: The NPS-UD Policy 3 directives specifically for the city centre (Policy 3(a)) and for metropolitan centres (Policy 3(b)) have already been implemented through PC78. Therefore, they do not form part of this s32 or proposed PC120.[54]

5.1.2 Evaluation Criteria

Figure 3 below outlines the criteria used to assess the options for addressing the resource management issues.

Sections of the RMA		Criteria
Appropriateness	s32(1)(a) and s32(1)(b) of the RMA	Is this option the most appropriate way to meet the objective of the AUP and the purpose of the RMA?
Effectiveness	s32(1)(b)(ii) of the RMA	Does this option successfully meet the objectives of the AUP and the purpose of the RMA?
Efficiency	s32(1)(b)(ii) of the RMA	Does this option address the issue at lowest cost and highest net benefit?
Costs	s32(2) of the RMA	What are the social, economic, environmental or cultural costs and/or negative effects that this option presents?
Benefits	s32(2) of the RMA	What are the social, economic, environmental or cultural benefits and/ or positive impacts that this option presents?
Risks	s32(2)(c) of the RMA	What are the risks of acting or not acting?

Figure 3: Criteria to assess options

[54] PC120 includes the precincts on the metropolitan centres of Westgate and New Lynn. Evidence was not presented to the Independent Hearings Panel on PC78 for these two precincts because they include land zoned THAB where MDRS was incorporated into the rules.

5.2 How is a walkable catchment determined?

5.2.1 Overview

Determining what is meant by the term 'walkable catchment' is covered in some detail in **Appendix 3**. It concludes that in the context of Policy 3(c) of the NPS-UD, the walkable catchments in Auckland should be based on the area the *average* person could walk to access a centre, or a rapid transit stop.

The MfE guidance on implementing the NPS-UD states that "walkable catchments can be determined either using a simple, radial pedshed analysis or a more detailed GIS (geographic information systems) network analysis."[55] NZTA Waka Kotahi pedestrian planning guide notes that "there are many different methods to measuring walkability using desktop analysis, on-site assessment or through pedestrians' experiences."[56]

A key issue in determining a walkable catchment is settling on the type of units in which it is measured. The two main units to measure a walkable catchment are time and distance (i.e. how long will people walk for in minutes or how far will people walk in metres). PC120 uses walking distance as a proxy for walking time (e.g. 400m = 5 minute walk) as people generally think about walking in terms of time costs rather than specific distances.

Six options for how a walkable catchment is determined are outlined section 5.2.3 that follows. Overall, the preferred option is **'Option 3 – Use a GIS network analysis with a distance parameter plus a refinement of edges based on modifying factors'.** This option can generate robust walkable catchments with only moderate implementation costs (i.e. basic GIS catchment and staff time to apply modifying factors). This option results in more accurate walkable catchments than options 1, 2, 5 and 6. Option 4 would result in an accurate walkable catchment with transparent assumptions but has very high implementation costs (GIS).

5.2.2 Description of options – How is a walkable catchment determined?

5.2.2.1 Option 1: A radial 'ped-shed' analysis

A circle (or radial circles) from the centre point of a centre or station can be used to define a walkable catchment. This technique is known as a radial ped-shed ('pedestrian shed') analysis and is drawn as a basic circle (with a selected walking distance forming the radius of the circle). An example of a radial 'ped-shed' is shown in Figure 4 below.

[55] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5
[56] Waka Kotahi (2025) *Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance

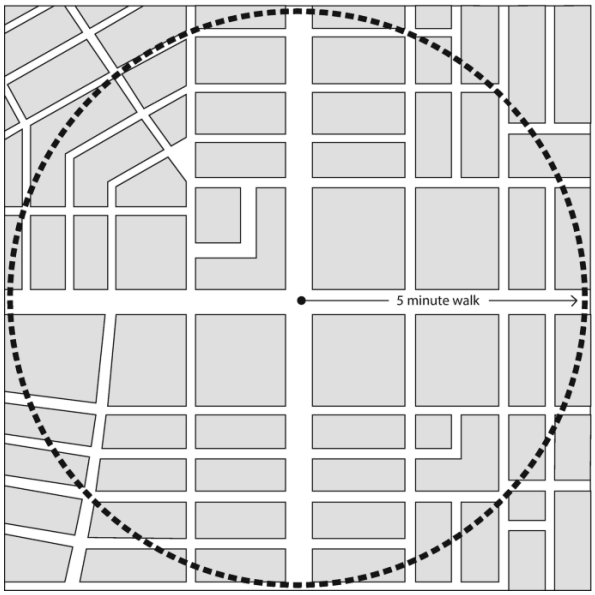


Figure 4: Example of a radial ped-shed using a 400m (5-minute walk) radius[57]

The MfE guidance notes that while the use of a pedshed circle to illustrate catchments can be used to conceptualise locations, it is not appropriate for tier 1 local authorities (i.e. Auckland) to use this method as a proxy for the actual walkable catchments. However, this approach may be suitable for tier 2 and tier 3 local authorities with smaller urban environments to understand areas that may be suitable for intensification under Policy 5(a).[58]

5.2.2.2 Option 2: Use a GIS network analysis with a distance parameter

Walkable catchments can be determined using a detailed Geographic Information System ('**GIS**') network analysis. The MfE guidance suggests that councils use GIS with spatial data (including digital road and walking networks) to calculate walkable catchments.[59]

A distance metric can be used as a proxy for walking time (e.g. an 800m walk is around 10 minutes).

Walking networks

A walking network is a collection of paths and tracks a pedestrian uses when travelling to different locations. The network can be made up of:

- Footpaths
- Shared paths

[57] Source: Friedman, A. (2021). *Mobility and the City: The Broad View. In: Fundamentals of Sustainable Urban Design.* Springer, Cham. https://doi.org/10.1007/978-3-030-60865-1_15
[58] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.4
[59] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.4

- Road crossings and intersections
- Pedestrian bridges and underpasses / tunnels
- Shared spaces
- Laneways
- Unpaved walking tracks
- Stairs and ramps
- Park pathways and trails[60]

Various GIS datasets based on the above networks can be used to create a digital walking network on which a walkable catchment can be mapped. This option was tested using Auckland Council's GIS data on walking networks. It should be noted that GIS data for walking networks may not perfectly represent the extent of pedestrian access in the real world. Furthermore, any significant addition to the walking network may change the actual extent of the walkable catchment.

Auckland Council GIS analysis

Auckland Council's GIS team used the service area analysis tool (using ArcGIS software) to generate walkable catchments. The tool works by determining an area encompassing all accessible walking networks from a specific location based on set parameters.

The road centreline network dataset (updated monthly) was used in this analysis, and it contains all road connections including latest available pedestrian accessways / walkways. It also defines roads which are impassable by pedestrians (e.g. motorways) so they can be excluded from the walkable catchment analysis.

To begin with, the tool requires a starting point (or multiple points) to measure a defined distance from. The pedestrian entrance points to the rapid transit stations were mapped[61], as were entrance points along the edge of the Metropolitan Centre zone[62] and the City Centre zone.[63] These points were used as the starting locations for measuring the distance of the walkable catchments.

In the service area analysis tool, the following parameters[64] were set to calculate the walkable catchments required by Policy 3(c) of the NPS-UD:

- calculate the distance measurement in metres
- 'X'm from rapid transit network station entrances
- 'X'm from the entrance points along the edges of the Metropolitan Centre zone
- 'X'm distance from the entrance points along the edge of the City Centre zone
- prohibit any "no-pedestrian access" road/route (e.g. motorways)

[60] Waka Kotahi (2025) *Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance
[61] Refer to **Appendix 12** for maps of the entrance points to the rapid transit stops.
[62] Refer to **Appendix 13** for maps of the entrance points to the Metropolitan Centre zones.
[63] Refer to **Appendix 14** for maps of the entrance points to the City Centre zone.
[64] Refer to section 6.6 for how the size of walkable catchments were determined

- no specific time of day was used to run the analysis

The output of the service area analysis is a set of polygons and network lines from each of the chosen starting points which encompass the area which is accessible within the distance set.[65]

An example of how the service area analysis creates a walkable catchment is shown in Figure 5 below. The red lines are the walking network. Figure 5 shows a walkable catchment of 1,200m based on the edge points (red dots) of the City Centre zone. Each entrance point generates a service area (the individually coloured polygons). These are then merged to create one full walkable catchment for the City Centre zone.

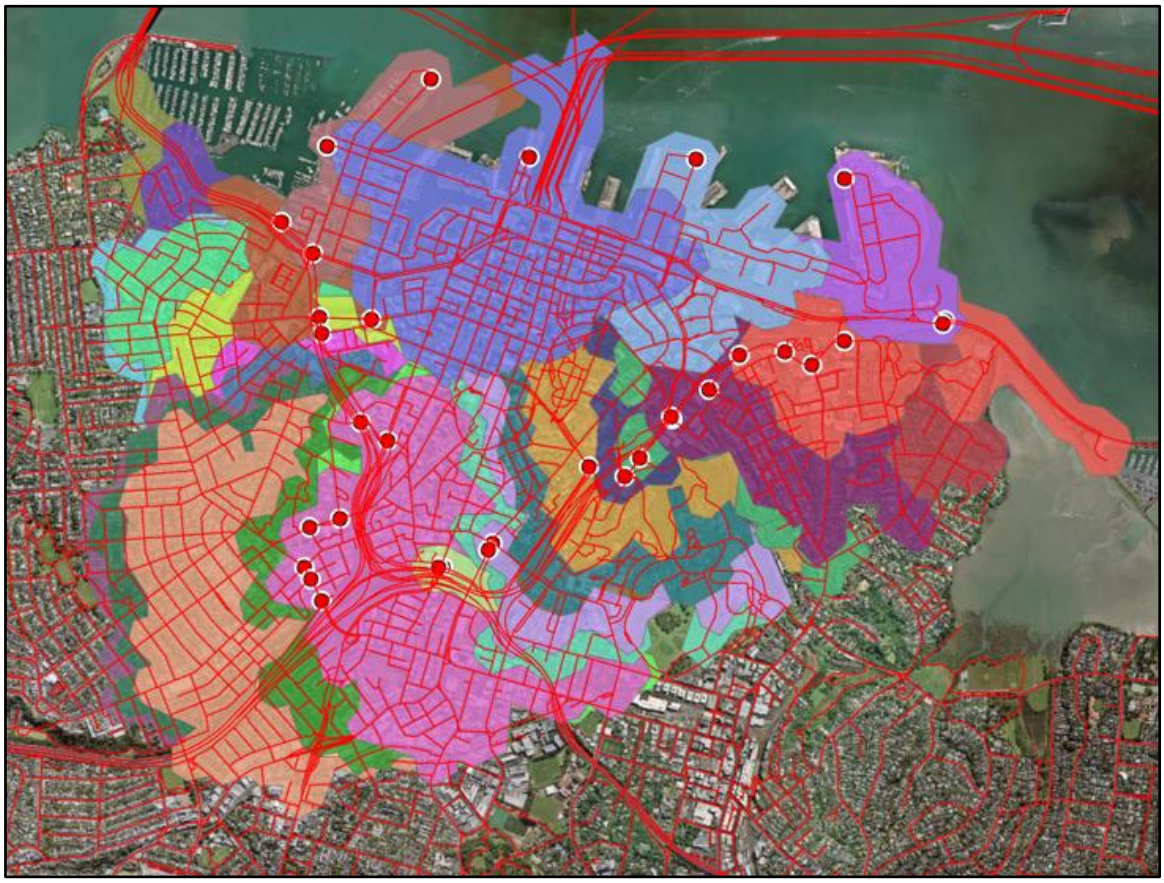


Figure 5: GIS developed service area of 1,200m from the edge of the City Centre zone

Using a GIS service area analysis based on actual walking networks creates a more refined walkable catchment (compared to the radial ped-shed approach). Figure 6 below compares a radial distance buffer (the dark purple circle) with the same distance service area (the lighter-

[65] The polygons are generated by putting the geometry of the lines traversed by the service area solver into a triangulated irregular network data structure. The network distance along the lines serves as the height of the locations inside the triangulated irregular network. Locations not traversed by the service area are put in with a much larger height value. A polygon generation routine is used with this triangulated irregular network to carve out regions encompassing areas in between the specified break values. The polygon generation algorithm has additional logic to produce the generalised or detailed polygons and to deal with the many special cases that can be encountered.

coloured irregular shape within the buffer). It shows how much the radial ‘ped-shed’ approach can over-estimate the land area within a walkable catchment.

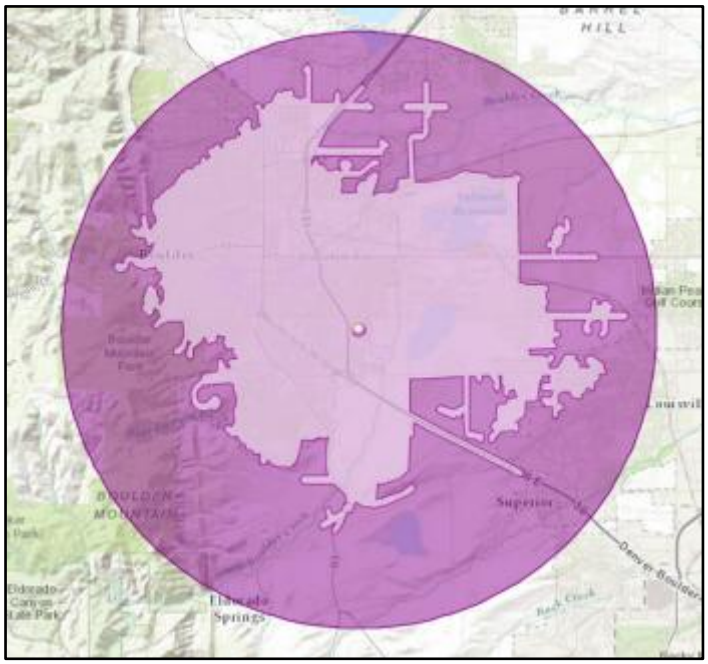


Figure 6: Example of a radial distance buffer (dark purple circle) versus the same distance measured by a service area (irregular shape light purple in the circle).

Using a GIS network analysis enables the selected distance to be the actual distance or path travelled rather than a linear radius that disregards actual environmental characteristics and their implications on walking. Another example is shown in Figure 7 below using Albany as a case study. The first image represents an 800m radius, but it is adjusted in the second image to represent an 800m walk, being the actual paths used – which are not linear, straight lines. This produces a smaller, but more accurate walkable catchment.

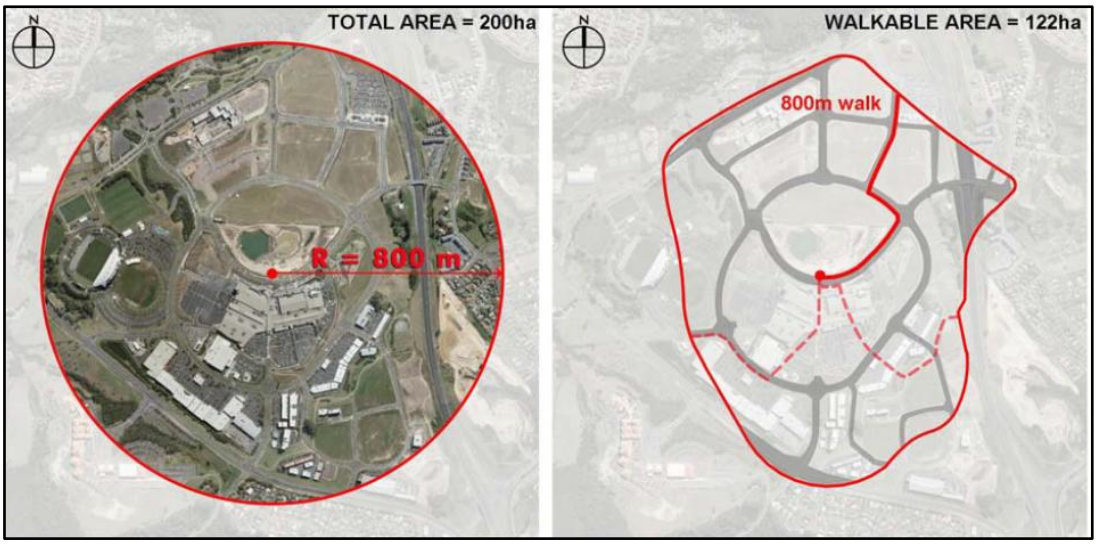


Figure 7: Different methods to determine a walkable catchment for Albany[66]

5.2.2.3 Option 3: Use a GIS network analysis with a distance parameter plus a refinement based on modifying factors

Limitations of network catchments

The MfE guidance on implementing the NPS-UD notes that basic network catchments in GIS software may not always accurately represent true walkable catchments. This is because digital street and pedestrian networks often do not take into account informal walking routes, such as those found in public parks, or other shortcuts. In addition, the walkable catchment distance can be "affected by factors such as land form (e.g. hills take longer to walk up and can be an obstacle to walking), connectivity or severance (e.g. the lack of ease and safety of crossing roads, highways and intersections), and the quality of footpaths."[67]

A 'basic' GIS network analysis does not account for these natural or man-made barriers in the actual urban environment (i.e. it is necessary to allocate some sort of time or distance penalty based on their implications). This means that walking accessibility can be overestimated when using the basic network method.[68]

The MfE guidance also notes that GIS generated catchments will often cut across property boundaries, especially where properties are large. A more formalised walking catchment should be based on property boundaries, as they help later when considering how to zone properties.[69]

Adding modifying factors based on guidelines

[66] Source: Munro, I. (2009). *The Problem of Catchment in Centres-based Residential Growth Planning.* Urbanism Plus Ltd.
[67] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5
[68] Zhao, F., Chow, L.-F., Li, M.-T., Ubaka, I., & Gan, A. (2003). *Forecasting Transit Walk Accessibility: Regression Model Alternative to Buffer Method.* Transportation Research Record, 1835(1), 34–41. https://doi.org/10.3141/1835-05
[69] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.4

Option 3 uses the same methodology as outlined in Option 2 above but adds a further step of refining the catchments based on various modifying factors. The GIS generated walkable catchments model only distance and omit from consideration all other factors which can impact walkability. Moreover, walkable catchments generated purely on a distance metric can result in poor planning outcomes along the edge of the catchment.

Option 3 includes guidelines that provide scope to make changes to the automatically produced catchment areas to ameliorate these inaccuracies and planning outcomes. The guidelines define the scope of the planning assessment and ensure the consideration of such matters are consistently applied.

The modifying factors fall into two categories: route guidelines and edge guidelines. The route guidelines govern the consideration of elements which can impact the distance an average person can walk within the specified time. Two factors were considered: footpath gradient, and pedestrian waiting times when crossing arterial roads.

There are many factors that influence people's propensity to walk and the distance they are prepared to do so. The modifying factors for the council's internal route guidelines were selected as they were considered to be variables which can significantly impact people's ability or willingness to walk. These factors were also able to be consistently and more objectively assessed compared to others. Many factors such as footpath quality, separation from moving traffic, number of vehicle accessways, pedestrian perceptions of safety and the number of other path users are either difficult or impossible to measure at the scale required for implementation of the NPS-UD. These factors are also variable over time (e.g. safety may be perceived differently at night, footpaths could be repaired by routine maintenance).

While there are many matters that impact the distance people will walk, trying to account for every minor instance of them in determining walkable catchments is unrealistic. Firstly, it is very difficult to estimate the exact extent to which they impact the walkability. Secondly studying, measuring, and applying these variables to every street within every catchment is simply not feasible in the timeframes required to implement the RMA Amendment Act 2025 (and the NPS-UD). Finally, the purpose behind the walkable catchments is to identify areas for long term land use change/intensification so it is not logical to determine these areas based on matters such as short-term maintenance conditions at a granular level.

The other modifying factor covers edge guidelines. These seek to minimise the potential adverse interface effects created by the boundary of the walkable catchment and to create logical and consistent types of boundaries across all of Auckland's walkable catchments. These modifying factors help address the interface issues that can arise from sites within a walkable catchment having a minimum of six storeys enabled adjacent to lower density zoned land (and noting that 44 catchments are proposed for 10-15 storey heights in PC120).

The guidelines in this category consist of a preference for whole properties being applied a single zone; a preference for zone transitions to be located along logical physical boundaries and roads; a preference for whole blocks to have a single zone; and a preference to minimise zoning transitions to reduce potential adverse residential effects on lower density residential sites. The council's internal modifying factor guidelines from PC78 were reviewed and updated during the process of identifying walkable catchments for PC120. The final guidelines

for determining walkable catchments are included in full in **Appendix 4** and are summarised below.

The guidelines are split into two categories – route and edge. Route modifying factors amend the walkable catchments with respect to the impact of topography and arterial road crossings on the route walkability. Edge modifying factors amend catchments to minimise potential adverse interface and boundary effects between land within and land outside the walkable catchments.

1. Route guidelines

1.1. Topography

Where the topography of the route(s) is flat or gently undulating, do not adjust the boundary. Reduce the walkable catchment area relative to the route's gradient and length where the gradient is of a steepness equal to or greater than 8% in incline or decline. The reduction of the walkable catchment must be relative to the averaged walking speed in both directions along that portion of the route (i.e. when walking both up and down the slope).

The GIS viewer for determining the boundaries of the walkable catchments notates the route gradients using a traffic light colour code system along the walkable catchment route network lines. Green denotes a gradient of between 0% and 8%, orange denotes a gradient of between 8% and 12%, and red a gradient of greater than 12%. The walkable catchment route can be reduced by the following distances per 100m of gradient as a maximum:

- *Green lines (0-8%): No change*
- *Orange lines (8-12%): 20m*
- *Red lines (12%+): 30m*

1.2. Arterial road crossing(s)

Walkable catchment distances can be reduced by around 60m (45 seconds) for each primary arterial road crossing along a given route, and by around 40m (30 seconds) for each secondary arterial road crossing along a given route. There is scope to reduce (or disregard) the distance based on the specific factors of the road (e.g. the width or nature of the pedestrian crossing). No waiting time shall be considered with regard to crossing non-arterial roads.

2. Edge guidelines

The edges of a walkable catchment can be adjusted (in or out) by around 100-150m (generally 200m maximum) to address the guidelines that follow.

2.1. Edge – Walkable catchment boundaries with respect to property boundaries

The walkable catchment should not bisect a property unless the property is large or awkwardly shaped and would otherwise distort the shape of the walkable catchment in that location (if that property is wholly included or excluded). In these cases, the walkable catchment should traverse through the site along a suitable and logical delineation of the property which maintains the natural shape of the wider walkable catchment.

2.2. Align the walkable catchment along physical boundaries including with roads and waterbodies

Extend or reduce the walkable catchment boundary to align with physical boundaries (including roads, coastlines, rivers) where this does not result in a significant deviation of the catchment from the walkable distance. The purpose of this guideline is to use strong and legible boundaries where possible and to limit the transitional effects along the boundary between land within and outside of the walkable catchment.

2.3. Align to include or exclude whole blocks within the walkable catchment

If the walkable catchment is to include or exclude the majority of a block but does not include a small area of the block, extend or reduce the walkable catchment to apply a consistent response to the whole of the block.

2.4. Limiting zoning transitions

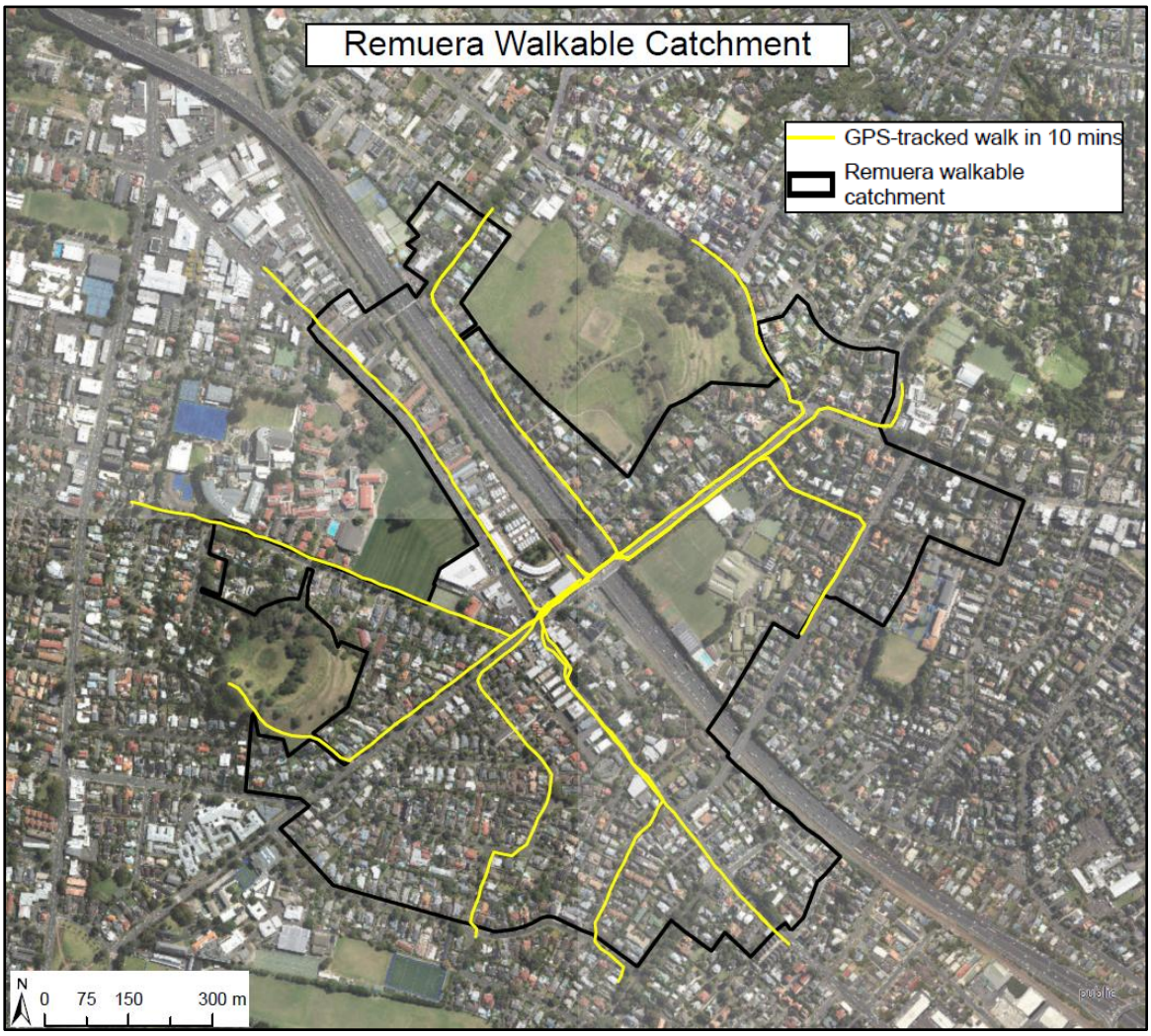
Direct interface between the edge of the walkable catchment and adjacent lower intensity zoned sites should be minimised where possible to reduce effects on residential amenity through adding to or removing from areas of the walkable catchment.

As discussed above, it is not possible to take into account every factor that affects walkability. Therefore, the guidelines do not take into account all factors which can impact walkability. For example, actual or perceived safety along the route was not considered for several reasons. Firstly, the actual and perceived safety of the environment along a pedestrian route can change over time meaning the inclusion of safety within an assessment of walkable catchments could become outdated. Secondly, the pedestrian routes used in the assessment are public roads or public pedestrian access ways. There is a presumption that given these are public footpaths, they are of adequate safety for pedestrians as determined by Auckland Transport. Lastly, an assessment of perceived and actual safety of a pedestrian route requires a comprehensive Crime Prevention Through Environmental Design audit of the route.

Ground-truthing

Council staff have not engaged in site visits to physically walk the routes, nor has real world testing of all the walkable catchments been undertaken due to constraints on time and resources. However, the council staff planners who assessed the walkable catchments were equipped with various desk based tools to assist them to make systematic and rigorous decisions including aerial photography, streetview, and contours. With regards the consideration of topography within the assessment (under Guideline 1.1), various tools were provided to planners to identify the severity and extent of topographical changes and to contextualise the impact those topographical changes would have on the length of the catchment. These are discussed in **Appendix 4.**

It is noted that a calibration test (for the GIS distance approach) was carried out for the Remuera train station walkable catchment.[70] This involved a person[71] undertaking a number of 10 minute walks from the station entrance. The end points of the 10 minute walks were similar to the output from the GIS approach as shown in Figure 8 below.



[70] The Remuera catchment was chosen as a fairly representative one due to its varying terrain and the presence of main roads, schools, and parks.
[71] The person for this exercise was an able-bodied male aged 22.

5.2.2.4 Option 4: Use a GIS network analysis with a time parameter

Time instead of distance

The NZTA Waka Kotahi pedestrian planning guide defines a walkable catchment as "the area covered by a set walking time (e.g. 5 minutes) from a destination".[72] A GIS network analysis can be used to determine a walkable catchment along a walking network based on time rather than distance. This would use a standard pedestrian walking speed. Options 2 and 3 determine a walkable catchment based on a distance as a proxy for time (e.g. a 10 minute walk being 800m) whereas this option (Option 4) calculates the catchment based simply on time with no distance proxy (e.g. a 10 minute walk).

This method uses the same walking network (footpaths, tracks etc) as Options 2 and 3 but adds information into the GIS network itself, such as walking speed and slope gradient. Point data such as controlled and uncontrolled crossing points with an average wait time can also be added into the GIS network.

How fast do people generally walk?

A key part of using a time parameter is determining how fast people walk. An 'average walking speed' is applied to the network. Waka Kotahi's pedestrian network guidance notes that people walk at a range of speeds depending on pedestrian characteristics such as age, gender and physical condition.[73]

As outlined in **Appendix 3**, objective 1 of the NPS-UD focuses on "all people" and the MfE guidance on implementing the NPS-UD specifically states that a walkable catchment is "the area that an **average** person could walk from a specific point to get to multiple destinations"[74]

Figure 8: Output of 10 minute walks vs GIS walkable catchment boundary

[bold added for emphasis]. Therefore, using the average walking speed is appropriate for this exercise.

There are a range of 'average walking speeds' referred to in studies, overseas examples, and guidance. A few of these examples are noted below:

- The vast majority of people walk at speeds between 0.8 metres per second (m/s) and 1.8 m/s (2.9 kilometres per hour (km/h) and 6.5 km/h). A fit, healthy adult will generally travel at a mean speed of 1.5 m/s (15th percentile: 1.3 m/s), and the aged and those with mobility impairments travel more slowly, at around 1.2 m/s (15th percentile: 1.0 m/s).[75]

[72] Waka Kotahi (2025) *Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance
[73] Waka Kotahi (2025) *Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance
[74] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5
[75] New Zealand Transport Agency (2009). *Pedestrian Planning and Design Guide.*

- Generally, walking speeds are approximately 3 to 4 miles (4.8 to 6.4 kilometres) an hour. This most likely decreases with age, to roughly 2.5 to 3 miles (4 to 4.8 kilometres) an hour.[76]
- Free speed (speed as desired or when unhindered by other pedestrians) is on, average, 1.58m/s.[77]
- The typical walking capacity of a 'normal healthy adult' is 6km/h. A walker would typically be able to maintain a speed of 6km/h for up to 20 minutes, before this rate declines from fatigue or other factors.[78]
    - A typical fit and healthy adult walks about five kilometres in an hour. The low range for an older adult is 3.3 kilometres in an hour. Therefore, a simple rule of thumb for un-delayed walking is 12–18 minutes per kilometres.[79]

While the above examples show a range of different walking speeds, most studies were consistent in calculating an 'average' walking speed at around 5km/hr. When determining walking catchments Waka Kotahi's most recent guidance is to use an average walking speed of 4.8km/h to 5.0km/h (i.e. 1.3m/s to 1.4m/s).[80]

GIS network model with time penalties

Option 4 follows the same initial steps as Options 2 and 3 in setting up the walking network and the starting points. However, rather than calculate a distance along the walking network from the starting point, Option 4 models a person walking along the network for a certain length of time.

An average walking speed (e.g. 5km/hr) is used to begin with, but then this speed is reduced in various parts of the network depending on the slope gradient (i.e. walking speeds are slower for walking uphill in steep areas). Walking speeds can reduce by 15% or more once gradient exceeds 10%.[81]

On busy arterial roads the GIS network can be designed to only allow crossing of the road where there are traffic signals or a pedestrian crossing. Average wait times at the crossings can be added to the network so that there is a 'penalty' time added for the wait (e.g. 45 seconds). This can make a significant difference to the extent of the walkable catchment.

By including this information in the walking network it allows a GIS exercise to calculate a more accurate walkable catchment, modelled on closer to 'real-world' conditions. However, it is acknowledged that any desktop assessment of walkability will be unable to consider all the actual circumstances that pedestrians encounter.

[76] Patricia. (2010). *Normal walking speed: Average human walking pace.* Yogawiz. http://www.yogawiz.com/blog/walking/normal-walking-speed.html
[77] Daamen, W., & Hoogendoorn, S. P. (2003). *Experimental Research of Pedestrian Walking Behaviour.* Transportation Research Record, 1828(1), 20–30. https://doi.org/10.3141/1828-03
[78] Allan, Andrew. (2001). *Walking as a Local Transport Modal Choice in Adelaide.* EcoPlan International.
[79] Waka Kotahi NZ Transport Agency (2025). *Pedestrian network guidance* https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance
[80] Waka Kotahi (2025) *Pedestrian Network Guidance*. Further reference to: Akcelik & Associates. (2001). *An investigation of pedestrian movement characteristics at Midblock signalised crossings*
[81] Q Ladetto, et. al., *'Human Walking Analysis Assisted by DGPS'*, research paper, Geodetic Laboratory, Swiss Federal Institute of Technology, Lausanne, Switzerland.

A desktop analysis cannot easily take into account trip characteristics such as pedestrian density, walking purpose, and route familiarity or environmental characteristics such as weather conditions that can impact walking speed.[82] Such an analysis also does not take account of factors such as debris, ponding, the sense of personal security, temporary obstructions, inconsistent signage and irregular surfaces, although all may affect pedestrians.[83]

5.2.2.5 Option 5: Station and centre surveys

The NZTA Waka Kotahi pedestrian network guidance suggests that the walkable catchment of a station or centre can be determined by asking those people who regularly walk in the area. On-site assessments of walkability involve asking pedestrians for their perceptions, or the use of assessment criteria to measure or score various aspects. Assessments involving pedestrians can consist of checklists and rating systems against which pedestrians rate their own experience as they travel along a route.

Additionally, customer tests with people who do not normally use a space can inform how to better cater for those who are excluded. Asking pedestrians to take pictures to document their feedback can also help understand their perception. The complexity of the checklist used may vary but should be tailored to match the characteristics of the pedestrians undertaking the assessment.[84] A walkable catchment can then be generated based on the results of the survey data.

However, it is noted that the exercise to determine the walkable catchments for Auckland's rapid transit network stations and centres was undertaken in limited time due to the timeframes directed in the RMA Amendment Act 2025. This meant it was not possible for council staff to undertake site visits to survey pedestrians around the various stations or centres. There was also not enough other data available that might 'backfill' this information on walking trips to Auckland's rapid transit stops and centres.

5.2.2.6 Option 6: Manually generated catchments via test walks

A relatively 'simple' option to determine a walkable catchment is to physically walk the catchment – starting from the station or centre entrance point and stopping when the time limit (e.g. 10 minutes) is up.

This would work by a person walking in one direction from the entrance points (to the stations or centres) until the time limit is reached. At that point, a marker would be set down as being

[82] Waka Kotahi (2025) *Pedestrian Network Guidance*. Waka Kotahi pedestrian guidance https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance
[83] Waka Kotahi (2025) *Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance
[84] Waka Kotahi (2025) *Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance

the outer edge of the catchment (in that direction). This would need to be (at least) repeated for each direction from the station or centre (i.e. north, south, east, west).

To increase the accuracy of the walkable catchment boundaries, additional timed walks to the north-west, north-east, south-west, and south-east could be added to the data. This exercise would benefit greatly from using a Global Positioning System ('**GPS**') tool that would be able to track the walks on a GIS map. An example of this is shown in Figure 8 in this section describing the options.

Option 6 could possibly result in an accurate walkable catchment based on the actual, 'on-the-ground' or 'real-world' conditions. However, there is also the potential that such a process would introduce bias based on the variable inputs such as the person's actual walking speed, the weather, and the time of day. The assessments would be subjective and results could vary according to individuals' abilities and confidence. To minimise this bias, the same route could be assessed using different pedestrians at different times, including during hours of darkness.

5.2.3 Evaluation of options – How is a walkable catchment determined?

Figure 9 over the page evaluates the six options for how to determine a walkable catchment (i.e. the method to use to determine it).

Overall, the preferred option is **'Option 3 – Use a GIS network analysis with a distance parameter plus a refinement of edges based on modifying factors'.**

	Option 1: A radial 'ped-shed' analysis	Option 2: Use a GIS network analysis with a distance parameter	Option 3: Use a GIS network analysis with a distance parameter plus a refinement based on modifying factors	Option 4: Use a GIS network analysis with a time parameter	Option 5: Station and centre surveys	Option 6: Manually generated catchments via test walks
Appropriateness	Inappropriate as it will implement Policy 3(c) in an inaccurate way by over-estimating the area within a walkable catchment.	Not the most appropriate option as its accuracy could be improved with only minor costs (see Option 3).	Most appropriate option as it generates robust walkable catchments with only moderate implementation costs.	An appropriate option as while it has high implementation costs (GIS), it generates robust walkable catchments that can be transparently interrogated.	Inappropriate as it has high costs and results likely skewed by pandemic lock-down.	Not the most appropriate option has high costs and cannot be guaranteed to produce reliable results.
Effectiveness	Least effective as the walkable catchments identified are 'as the crow flies' (rather than 'as people walk') and will therefore not be accurate.	Generates a fairly accurate walkable catchment (more accurate than Option 1) as it is based on mapped walkable routes (roads, tracks etc).	Generates an accurate walkable catchment (more accurate than Option 2) as it includes consideration of modifying factors that can influence walkability.	Generates an accurate and consistent walkable catchment that transparently shows the assumptions built into the GIS analysis.	Ineffective due to time limitations preventing surveys from being undertaken.	Not effective in accurately determining walkable catchments due to variables that are difficult to control for.
Efficiency	Requires little analysis to identify walkable catchments but produces an inaccurate catchment.	Requires only GIS analysis to generate walkable catchments but has associated costs regarding accuracy. GIS-generated catchments will often cut across property boundaries (specially where properties are large) creating issues around future zoning	Requires GIS analysis and additional staff time to apply modifying factors but generates an accurate walkable catchment.	Requires very high GIS input to generate the walkable catchments but unclear whether the results are more accurate (or merely similar) to Option 3.	High costs to implement (staff time to undertake surveys) and likely to generate inaccurate catchments.	High costs to implement (time to walk all the catchments in each direction using a range of staff for quality control testing) and unlikely to result in accurate walkable catchments.

	Option 1: A radial 'ped-shed' analysis	Option 2: Use a GIS network analysis with a distance parameter	Option 3: Use a GIS network analysis with a distance parameter plus a refinement based on modifying factors	Option 4: Use a GIS network analysis with a time parameter	Option 5: Station and centre surveys	Option 6: Manually generated catchments via test walks
		implications of the walkable catchments.				
Costs	Walkable catchments will not be accurate and will include a significant amount of land (for intensification) that is not actually within a walkable distance. Intensification in the outer areas of the ped-shed is less likely to be based on walking as the main mode of transport.	Walkable catchments will not be entirely accurate and will include some land (for intensification) that is not actually within a walkable distance as the analysis only uses a basic network and doesn't take into account potential modifying factors.	Moderate level of staff costs to generate a basic GIS walkable catchment and then refine with modifying factors for each specific catchment.	Requires a very high level of GIS input and analysis to generate the walkable catchments.	High staff costs to implement (surveys) and the walkable catchments generated are unlikely to be accurate – as it collects data about what people say they do or think they will do (which is not always the same as what they actually do in practice).	High staff costs to implement and the walkable catchments generated will still have in-built subjectivity. Very high costs required to attempt to reduce subjectivity by having multiple people walk every route (at various times of the day, in different weather conditions etc).
Benefits	Takes minimal analysis to generate the walkable catchments.	Generates a fairly accurate walkable catchment based on a transparent methodology using GIS mapped walking routes.	Generates an accurate walkable catchment for each station and centre based on mapped walking routes and specific modifying factors.	Generates an accurate walkable catchment for each station and centre based on average walking speeds with the modifying factors of Option 3 built into the GIS analysis itself – generating a more consistent approach across all the walkable catchments.	Generates a specific walkable catchment for each station and centre based on the stated walking habits of station and centre users.	Gives a type of 'real-world' and 'on-the-ground' basis to the walkable catchments.

	Option 1: A radial 'ped-shed' analysis	Option 2: Use a GIS network analysis with a distance parameter	Option 3: Use a GIS network analysis with a distance parameter plus a refinement based on modifying factors	Option 4: Use a GIS network analysis with a time parameter	Option 5: Station and centre surveys	Option 6: Manually generated catchments via test walks
Risks	Walkable catchments generated under this option will not be accurate. MfE guidance specifically recommends tier 1 councils against using this method.	Does not consider some of the 'real-world' factors that can limit walkability (e.g. slope, major roads) meaning walkable catchments generated under this option will not be accurate.	The application of the modifying factors may result in inconsistencies between the walkable catchments.	The changing of any of the assumptions in the GIS will result in changes across the entire set of walkable catchments.	Only takes into account the distances walked by those using public transport stations or the centre. Does not consider other factors that may influence the data such as surrounding land use. Does not consider potential users of public transport and centres not surveyed.	Likely that the walkable catchments generated will not be accurate as they will be subjective (based on a specific person, time, weather conditions etc).

Figure 9: Evaluation of options to determine a walkable catchment

5.3 What size is a walkable catchment?

5.3.1 Overview

The previous section considered whether to determine a walkable catchment based on a distance (e.g. 400m) or a time (e.g. 5 minutes). A 400m walk (using an average walking speed of 5km/hr (or 1.4m/s)) would take around 5 minutes[85]. Equally, a person walking for 5 minutes at an average walking speed would travel a distance of around 400m.

Distance is often used as a proxy for time as people generally think about walking in terms of time costs rather than specific distances. An average person is more likely to think about a walk to the local park as being 'about a 5 minute walk' rather than 'about a 400m walk'.

The preferred method in the previous section was to determine a walkable catchment based on a distance (as a proxy for time). Therefore, the options analysed in this section are different distances (with time proxies) that determine the size of the walkable catchment.

Determining the appropriate size of a walkable catchment has been the subject of extensive research which is set out in detail in **Appendix 5**. In analysing what the appropriate options are for the distance for a walkable catchment, the matters under the headings below have been considered. Each of these matters is covered in more detail in **Appendix 5**.

In addition, a discussion on the potential implications of larger walkable catchments is included in **Appendix 19**. It indicates that focusing intensification more closely around centres will result in greater levels of walking trips – in the range of 17-40%. It also argues that increasing the radius of a notional 'walkable catchment' is likely to be counter-productive in terms of the amount of walking undertaken by the community if that means the same overall housing intensification is simply distributed more widely across that catchment.

Four options were considered to determine the size of a walkable catchment for the city centre, metropolitan centres and from rapid transit stops. An options analysis was completed for each grouping of walkable catchment (city centre, metropolitan centre and rapid transit stop).

For the city centre, option 3: 1,200 (15 minutes) is the preferred as it is the location with the highest concentration of employment, entertainment, retail, education and tourism services, in addition to three rapid transit stations. Evidence shows that people walk further to use centres with a large range of activities.

For metropolitan centres and rapid transit stops, option 2: 800m (10 minutes) is preferred as it is a commonly used metric, and results in a larger area of land than option 1 (400m or 5 minutes) that would be enabled for focused intensification.

5.3.1.1 Literature review (international and local)

An extensive range of research on walkable catchments has been reviewed for this s32 report. However, it is important to acknowledge that this has not been an exhaustive review of all

[85] Walking 400m at a pace of 5km/hr would take 4 minutes and 48 seconds (approximately 5 minutes).

literature on walkable catchments. A short summary of the studies, articles, and books that have been reviewed is included in **Appendix 20**.

There is a general agreement across the various studies that the proportion of people who walk to a destination decreases the further away from the destination they are. This is referred to as a 'distance-decay' effect and there is a strong distance-decay relationship for walking trips to all destinations. There are also some broad similarities in studies looking at the rate of this effect for different destinations (i.e. bus stops, train stations, shops, etc).

The research shows that, generally a 400m – 800m catchment is considered walkable. However, various studies show that people are prepared to walk further to key destinations such as frequent public transport stops and centres with a variety of amenities. Further detail summarising the literature on walkable catchments is in **Appendix 5**.

5.3.1.2 New Zealand walkability guidance

A number of central government guides have been produced that cover the sizes of walkable catchments. In general, the guidance ranges from suggesting walkable catchments of 400m (5 minute walk) to around 1,200m (15 minute walk). Further detail summarising the walkability guidance in New Zealand is in **Appendix 5**.

5.3.1.3 Auckland Council's previous walkable catchment approaches

Prior to PC78, Auckland Council had not defined the term 'walkable catchment' in any planning or strategic document such as the AUP. Neither had Auckland Transport in its transport planning documents. Until the advent of the NPD-UD in 2020, walkable catchments were not used as a regulatory method but most often understood and applied as 'ped-sheds'. The NPS-UD Policy 3(c) requirement for district plans to enable at least six-story building heights in walkable catchments means the use of walkable catchments as a district plan method (as discussed in **Appendix 6**) is a new concept for statutory plans in New Zealand.[86]

The council and its Council Controlled Organisations ('**CCOs**') have used a range of different distances for a walkable catchment (or related concepts) since 2012, and for different purposes. The distances have ranged from 250m to 1,600m. Further detail summarising Auckland Council's previous walkable catchment approaches is in **Appendix 5**.

5.3.1.4 Comparator city approaches

The guidance offered by other international local governments (city and state) in relation to the distance of walkable catchments has been reviewed. The recommended sizes of walkable catchments in comparator cities (using cities that are similar to Auckland in terms of their history and development) range from 400m–800m or 5–10 minutes' walk from public transport, with the longer distance generally being seen as more appropriate for major transit stops. Further detail summarising comparator city approaches to walkable catchments is in **Appendix 5**.

[86] Noting that PC78 did include walkable catchments and that PC120 aligns with the walkable catchments distances in PC78.

5.3.1.5 Ministry for the Environment's NPS-UD guidance

In 2020 MfE produced a guidance document for councils called *"Understanding and implementing intensification provisions for the National Policy Statement on Urban Development"*. The guidance was developed to help local authorities understand and interpret the provisions for intensification in the NPS-UD (specifically including Policy 3).

The guidance states that "a distance of 800 metres from each main entrance to a transit stop is considered a minimum walkable catchment in all urban areas" as it is consistent with long-standing academic and international best practice. However, it acknowledges that each local authority can determine the distance of walkable catchments appropriate for local circumstances and that the final distance can be influenced by a range of factors.

The guidance notes that an 800m catchment may be a good starting point, but it also may be appropriate for larger tier 1 urban environments to consider greater distances in some situations. Not all destinations (centres, stations) are equal and where there are larger centres with more services and amenities or more connected stations, the walkable catchment can be expected to be larger. This is because people are prepared to walk further to use well connected stations and centres with a larger range of activities.

The guidance recognises the walkable catchment distance can be amended to account for local factors such as street layout, severance, topography, connectivity, urban amenity, street lighting, passive security, mobility needs, and delays at traffic light-controlled intersections. Further detail summarising the MfE guidance around walkable catchments is in **Appendix 5**.

5.3.1.6 Approaches of other tier 1 councils to Policy 3(c) walkable catchments

New Zealand's tier 1 urban environments are directed by the NPS-UD to implement walkable catchments within a walkable catchment of city centres, metropolitan centres, and rapid transit stations. While the individual context of each tier 1 local authority is different, it would seem logical that each council would have similar, but not necessarily the same, walkable catchment responses. Figure 10 below lists the various walkable catchments for each other tier 1 urban area in New Zealand.

Walkable Catchment	Tier 1 urban area			
	Christchurch	Wellington	Hamilton	Tauranga
City centre Policy 3(c)	15 mins (1,200m)	15 mins (Approx. 1,000m)	800m	15 mins (1,500m)
Metropolitan centres Policy 3(c)	N/A (would be 800m)	10 mins (Approx. 600m)	N/A	N/A
Rapid transit stops Policy 3(c)	N/A (would be 800m)	10 mins (Approx. 600m)	N/A	N/A

Figure 10: The walkable catchment metrics used by other tier 1 local authorities for implementing Policy 3(c) of the NPS-UD

Figure 10 demonstrates that there is a general consistency between the walking time metrics used by the tier 1 councils, with some variation in distances walked in that time. While each council did its own internal work to come up with their walkable catchment metrics, the consistency can likely be explained through each council's references to well established industry guidelines and academic studies on walkable catchments. Further detail summarising the various tier 1 urban area approaches to walkable catchments is in **Appendix 5**.

5.3.1.7 Census (2023) travel data for Auckland

The Auckland city centre has a large surrounding area in which a high proportion of people walk to their city centre work destination. Based on the 'walk to work' percentages of residents that live in areas surrounding the city centre (and who work in the city centre) there are 7 suburbs[87] around the city centre that have 'walk to work' percentages over 10%, and a further seven areas over 40%.

The areas with the higher percentages of people who walk to work in the city centre are around 1km (as the crow flies) from the edge of the City Centre zone. Therefore, in reality some of the distances walked are likely to be closer to 2km once the actual walking route is considered.

Conversely, the census data shows that most of Auckland's ten metropolitan centres do not have a high proportion (and low overall number) of people in the area surrounding each centre that walk to their work destination in the metropolitan centre.

While Takapuna, New Lynn and (in particular) Newmarket show relatively high proportions of people walking, the other metropolitan centres show that only a small proportion of people in surrounding areas walk to their work destination in those centres. Further detail summarising the census travel data for Auckland's city centre and metropolitan centres is in **Appendix 5**.

5.3.1.8 The nature of the city centre

When determining a walkable catchment specifically for the city centre it is useful to understand how Auckland's city centre is different to the eleven metropolitan centres and the 54 rapid transit stops. On average, the metropolitan centres are around just one fifth of the size of the city centre. The city centre also contains far more attractors than any of the metropolitan centres or rapid transit stops in relation to employment, entertainment, retail, civic amenities, education, tourism, and transport connections. Moreover, when compared to metropolitan centres and rapid transit stops, the city centre has a higher chance of being the final destination for travel as opposed to a transit point in their journey. In summary, there is a strong case to treat the city centre walkable catchment differently to those around metropolitan centres and rapid transit stops. Further detail summarising the nature of Auckland's city centre is in **Appendix 5**.

[87] SA2 areas (Statistics NZ).

5.3.1.9 Walkable catchments in greenfield areas

Some walkable catchments are adjacent to greenfield land that is either zoned Future Urban or has a 'live' urban zoning but is still greenfield (i.e. no development has occurred yet on the land). This has implications for determining their walkable catchments.

The Future Urban zone is outside the "urban environment" to which NPS-UD Policy 3(c) applies and therefore no Future Urban zoned land has been included within any walkable catchments. This results in irregular shaped walkable catchments for Drury Metropolitan Centre, Drury Train Station, and Paerātā Train Station. The Ngākōroa Train Station is completely surrounded by Future Urban zoned land and thus has a walkable catchment of zero.

For the 'live' zoned greenfield areas which have not yet been fully developed, the walkable catchments were determined based on the most up to date information for these areas including road and pedestrian network plans in AUP precincts and as shown in resource consents. This approach was taken for the walkable catchments around the Westgate Metropolitan Centre, Drury Metropolitan Centre, Drury Train Station, and Paerātā Train Station.

Rapid transit stops and Metropolitan Centre zones adjacent to Future Urban zoned land will (at some stage) need to have their walkable catchments applied and zoned to enable six storey buildings. This could occur through a plan change (or plan review) when there is more certainty about how the surrounding Future Urban zone will develop and the layout of the road/pedestrian network connecting to the rapid transit stops or metropolitan centres. Further detail summarising the approach to walkable catchments in greenfield areas is in **Appendix 5**.

5.3.1.10 What 'at least' a walkable catchment means

Where Policy 3 refers to "at least" a walkable catchment this means that the minimum area for enabling buildings of six storeys must be within a walkable catchment. The wording "at least" in Policy 3(c) makes it possible for the area enabling six storeys to go beyond the walkable catchments. However, the boundaries of the walkable catchments themselves do not need to be extended to enable this (as it would make them inconsistent with others across the region).

5.3.1.11 Previous feedback on walkable catchments (2022)

In 2022, as part of preparing PC78, Auckland Council consulted on a preliminary response to walkable catchments under Policy 3(c) and intensification in and adjacent to smaller centres under Policy 3(d).

The walkable catchment distances proposed at that time were a 15 minute walk (around 1,200 metres) from the edge of the city centre, and a 10 minute walk (around 800 metres) from the edge of metropolitan centres and around rapid transit stops. These are the same walkable catchment distances as those proposed in PC120.

The intensification around Auckland's smaller centres in PC78 proposed 200m-400m of Terrace Housing and Apartment Buildings zone ('**THAB**') adjacent to 46 local and town centres. No specific additional intensification was proposed around neighbourhood centres. This is similar to what is proposed under PC120 for implementing Policy 3(d).

During the 2022 consultation period, feedback was sought on the proposed changes to the AUP that the council had scope to make limited decisions on – such as the size of the walkable catchments and the size of areas adjacent to local and town centres for intensification. Overall, 7,860 pieces of feedback were received and the council also undertook a representative survey of Aucklanders.

A summary of the feedback on the walkable catchment distances and the areas of intensification adjacent to smaller centres is shown in the table below.

Location	Proposed distance	Support in survey group	Support of at least[88] this distance from feedback
Walkable catchment around the **city centre**	1,200m	50%	59%
Walkable catchment around **metropolitan centres**	800m	49%	61%
Walkable catchment around **rapid transit stops**	800m	52%	56%
Application of THAB zone around **specific town centres**	400m	49%	55%
Application of THAB zone around **specific town and local centres**	200m	46%	59%

5.3.2 Description of options – What size is a walkable catchment?

The four options considered below only consider different distance metrics (as a proxy for time) and do not refer to methods for measuring or calculating a walkable catchment, as that is covered in the previous section above. It must also be highlighted that while these options below have specific distance metrics, the methodology outlined in the section above still requires modifying factors to be considered (e.g. topography) so the distance metric can be altered when considering specific areas in walkable catchments and when refining the edges of the catchment.

The metrics outlined in the options below all have 'round numbers' (e.g. 400m or 800m being proxies for 5 minutes or 10 minutes). Obviously, a 400m distance is not a 'hard boundary' for a walkable catchment. It is clearly not logical that someone 397m from a centre or station will happily walk there, while the neighbour who is 403m away would never do so.

As explained in **Appendix 5**, the distance-decay effect has a long tail where a small percentage of people will continue to walk to the centre or station even if it is well beyond the walkable catchment metric (based on the 'average' person). While a District Plan 'walkable catchment' will necessarily require a specific boundary for legibility (and legality), the actual

[88] Combining the 'Support' and 'Do not support – think it should be further' responses.

relationship between distance and willingness to walk is a continuous curve without sharp breaks.

Therefore, the use of 'round numbers' for each option is a deliberate decision. The basis of the options has been derived using intervals of 5 minute walks (400m). [89]

Finally, it is worth noting that the area covered by a walkable catchment increases at greater rate than an increase in the walkable catchment distance. For example, a basic circular 400m catchment covers some 50ha of land, whereas an 800m catchment covers 201ha and a 1,600m catchment covers 804ha. A doubling of the walkable catchment distance roughly equates to a quadrupling of the area of land covered by that walkable catchment.

5.3.2.1 Option 1: 400m (5 minute walk)

This option calculates a walkable catchment based on a 400m distance, which is the equivalent of a 5 minute walk. It is noted that this catchment can be further refined through the use of modifying factors as described in section 6.5.2.3 of this report and **Appendix 4**.

5.3.2.2 Option 2: 800m (10 minute walk)

This option calculates a walkable catchment based on an 800m distance, which is the equivalent of a 10 minute walk. It is noted that this catchment can be further refined through the use of modifying factors as described in section 6.5.2.3 of this report and **Appendix 4**.

5.3.2.3 Option 3: 1,200m (15 minute walk)

This option calculates a walkable catchment based on a 1,200m distance, which is the equivalent of a 15 minute walk. It is noted that this catchment can be further refined through the use of modifying factors as described in section 6.5.2.3 of this report and **Appendix 4**.

5.3.2.4 Option 4: 1,600m (20 minute walk)

This option calculates a walkable catchment based on a 1,600m distance, which is the equivalent of a 20 minute walk. It is noted that this catchment can be further refined through the use of modifying factors as described in section 6.5.2.3 of this report and **Appendix 4**.

5.3.3 Evaluation of options – What size is a walkable catchment?

The four walkable catchment distance options are assessed in tables further below. They are assessed separately for rapid transit stops (in Figure 11), from the edge of metropolitan centre zone (in Figure 12), and the city centre zone (in Figure 13).

[89] The Joint Witness Statement on PC78 noted that for various reasons, including simplicity, consistency, familiarity, and practicality, that at least as a starting point, intervals of 400m (historically associated with a 5 min walk) be used when considering and mapping walkable catchments. Auckland Council PC78 – Joint witness statement Topics 017A, 017B, 017E, 017G and 014J (18 April 2023)

Rapid transit stops:

Overall, for rapid transit stops the preferred approach is **'Option 2 – 800m (10 minute walk)'**. This is because it is a commonly used metric that is backed up with various research and is generally supported by MfE guidance.

It provides a suitable amount of land for intensification around Auckland's rapid transit stops and therefore would likely realise benefits of a focussed area for intensification. The propensity to walk (per household) would be high (i.e. the relatively short distance would be more likely to be walked by those living in it). This option encourages intensification in a relatively small area, meaning intensification outcomes are more likely to occur close to rapid transit stops.

Metropolitan Centre zones:

Overall, for a walkable catchment from the edge of Metropolitan Centre zones[90] the preferred approach is **'Option 2 – 800m (10 minute walk)'**. This is because it is a commonly used metric that is backed up by research on walkable catchments, other tier 1 council approaches, and is generally supported by MfE guidance.

This option provides a suitable amount of land for intensification around Auckland's large centres and therefore would likely realise benefits of a focussed area for intensification. The propensity to walk (per household) would be high (i.e. the relatively short distance would be more likely to be walked by those living in it). This option encourages intensification in a relatively small area, meaning intensification outcomes are more likely to occur close to metropolitan centres.

City Centre zone:

Overall, for the walkable catchment from the edge of the City Centre zone the preferred approach is **'Option 3 – 1,200m (15 minute walk)'.** While there are not many studies on walking to very large centres, there is evidence to show people will walk further than 800m to a destination with a variety of amenities. The size of the city centre is much larger than metropolitan centres and the amenities in the city centre are unique in that they include:

- Three rapid transit stops and a hub for public transport including buses and ferries;
- Largest concentration of employment in Auckland – 125,000 jobs;
- Entertainment – 500 dining venues, theatres, spark arena;
- Retail - $1.9B spent in city centre each year;
- Civic amenities – Town Hall, Art Gallery, 33ha open space;
- Education – the greatest concentration of students in New Zealand (37,000) and two universities;
- Tourism – Cruise ship terminal, concentration of accommodation (hotels) and tourist venues – sky tower, maritime museum, convention centre, waterfront area;

2023 census data shows a high proportion of people in surrounding suburbs (who work in the city centre) walk to work from those surrounding suburbs (e.g. Freemans Bay – 69%, Grafton

[90] PC120 covers Policy 3(c) and 3(d) locations and includes Westgate and New Lynn precincts. Evidence was not presented to the Independent Hearings Panel on PC78 for these two precincts because they include land zoned Terrace Housing and Apartment Building Zone where MDRS was incorporated into the rules.

– 55%, Parnell West – 46%, Eden Terrace – 39%, Ponsonby East – 44%, Grey Lynn East – 46%, Saint Marys Bay – 42%, Grey Lynn Central – 30%).

The MfE guidance also recommends that tier 1 city centres should have walkable catchments of more than 800m. The 1,200m walkable catchment from the edge of the city centre is consistent with the city centre walkable catchments for Christchurch (1,200m), greater than Wellington (1,000m), but less than Tauranga (1,500m)[91] – although all are in fact based on around a 15 minute walk[92].

5.3.3.1 Demarcation of walkable catchments in the AUP

PC120 identifies 66 walkable catchments across Auckland, made up of the City Centre zone, the eleven Metropolitan Centre zones, and Auckland's 54 existing and planned rapid transit stops. In total, the area covered by walkable catchments[93] is over 8,000ha.

PC120 proposes that the method of identifying the walkable catchments in the AUP is through a spatially demarcated layer on the planning maps called 'Walkable Catchments'. Within the AUP text, Chapter G will be amended to be called '*Chapter G – District Plan Methods''*. Walkable Catchments will be a District Plan method and will appear similarly to how the Rural Urban Boundary is presented in the AUP. The new text proposed in Chapter G of the Unitary Plan on walkable catchments is shown in **Appendix 6**.

5.3.3.2 Method to enable heights within walkable catchments

The AUP has a range of existing methods that could be used to enable greater heights within the walkable catchments. These covered in detail in **Appendix 7**.

Note that the consideration of enabling heights greater than six storeys within specific walkable catchments is addressed in the next section of this s32 report. This section of the s32 report assumes all walkable catchments are enabled to the minimum of six storeys.

PC120 proposes to rezone all the residential zones inside the walkable catchments to a modified THAB zone to enable building heights of at least six storeys (22m).

Other zones (i.e. Mixed use, Town/Local/Neighbourhood centres, Business Park, Light Industry, Heavy Industry) within walkable catchments are not changed but have their height standard amended to enable buildings of at least six storeys (where a site is within a walkable catchment).

Any existing Height Variation Controls ('**HVC**') in the walkable catchment under 22m are removed unless a qualifying matter applies. Any existing HVCs enabling more than 22m are retained.

[91] Note the 1,500m walkable catchment in Tauranga is the only Policy 3(c) walkable catchment in the Tauranga District Plan.
[92] All s32 reports for these plan changes reference that the distances used equate to a 15 minute walk.
[93] This is the total merged area of walkable catchments (the sum of all individual walkable catchments is higher, but includes areas where walkable catchments overlap).

5.3.3.3 How do qualifying matters relate to zoning and heights in walkable catchments?

The application of the THAB zone and additional height enabling at least 6 storeys (22m) as described above is carried out before the application of qualifying matters. Some qualifying matters may modify, or reduce, the building heights or densities required by the NPS-UD or the RMA (i.e. reducing THAB to a lower density residential zoning).

The zoning and heights within each walkable catchment following the application of qualifying matters are shown on the PC120 planning maps. Where a qualifying matter modifies, or reduces, the building heights or densities required by the NPS-UD or the RMA, please refer to the s32 on Qualifying Matters for more details.

Walkable catchments from the entrance points of rapid transit stops

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
Appropriateness	Could be appropriate as it is a commonly used metric for how far people will generally walk to a destination that is backed up with various research – but evidence also shows people will often walk further to a rapid transit stop due to the reliability and frequency of the service.	Appropriate as it is a commonly used metric that is backed up with various research - a 'walkable catchment' is generally around an 800m or 10min walk to access a rapid transit service. Generally supported by MfE guidance.	Unlikely to be appropriate due to the very large areas of land included within the walkable catchments across Auckland and the implications of this on diluting intensification and walkability effect. Not as much evidence to support this distance for walking to rapid transit stops.	Unlikely to be appropriate as the metric is significantly above recognised across various research and used in comparable cities. The dilution of the walkability effect would be most notable under this option.
Effectiveness	Results in a relatively small area of land within the walkable catchment and therefore limits the ability for intensification around Auckland's rapid transit stops.	Results in larger area of land (than Option 1) within the walkable catchment and therefore provides more ability for intensification around Auckland's rapid transit stops.	Results in a much larger area of land (than Option 2) within the walkable catchment – especially multiplying this across 54 rapid transit stops across Auckland. Dilution of the walkability effect as distances increase and catchment size increases.	Results in a huge additional area being added to the walkable catchment but without corresponding benefits of focussed intensification or increased propensity to walk (per household).
Efficiency	While this option has potential benefits of a tightly focussed area for intensification being realised (in terms of walking outcomes and redevelopment) it also comes with the opportunity costs of only identifying a small area for intensification around Auckland's rapid transit stops.	Would likely get benefits of a focussed area for intensification being realised (in terms of walking outcomes and redevelopment) without the costs.	While this option would provide the potential for a large amount of intensification around Auckland's rapid transit stops, it could also undermine the intensification goal by dispersing uptake over a much larger area.	While this option would provide for the potential for a very large amount of intensification around Auckland's rapid transit stops, the area is so big that it could also undermine the intensification goal by distributing uptake over a very large area.
Costs	Results in a relatively small area of land within the walkable catchment and therefore limited	Potential dilution of the walkability effect as the distance increase and catchment size increases.	The propensity to walk (per household) would be lower than Option 2. Potential to dilute the walkability effect as distances	The wider walkable catchment enables a large amount of additional capacity with little effect on the scale of demand. Therefore, the large excess of capacity

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
	ability for intensification around Auckland's rapid transit stops. Has flow-on impacts to supress the metrics of how far away 'adjacent' can be considered under Policy 3(d).		increase and catchment size increases.	above and the long term demand/growth results in a wider geographic spread of development. Distributing the anticipated demand across a larger area will reduce the average density across the catchment and likely see less intensification close to Auckland's major centres. The benefits of intensification around these locations will be diluted and this potentially undermines the intention of Policy 3(c) to focus growth around major centres. Likely to have fewer (per household) walking trips than smaller catchment options.
Benefits	The propensity to walk (per household) would be highest (i.e. the short distance would be more likely to be walked by those living in it). Encourages intensification in a small area, meaning intensification outcomes more likely to occur close to rapid transit stops.	The propensity to walk (per household) would be high (i.e. the relatively short distance would be more likely to be walked by those living in it). Encourages intensification in a relatively small area, meaning intensification outcomes more likely to occur close to rapid transit stops.	Provides a large amount of capacity around Auckland's rapid transit stops where the NPS-UD and the AUP direct intensification to be focussed.	Provides a very large amount of capacity around Auckland's rapid transit stops where the NPS-UD and the AUP direct intensification to be focussed.
Risks	Inconsistent with the metrics used for rapid transit by other NZ tier 1 urban areas. Conflicts with MfE guidance as a 400m catchment is under the suggested 'starting point' of 800m.	Does not follow the MfE guidance which suggests 800m around centres and stations as a good 'starting point' but also 'expects' the walkable catchment of Auckland's rapid transit stops to be *larger* than those of metropolitan centres.	Risk in zoning large walkable catchment area that the intention of Policy 3(c) is undermined as the same overall housing intensification is simply distributed more widely across that larger catchment.	Risk that by zoning very large walkable catchments, excessive capacity is enabled, and the intention of Policy 3(c) is undermined as the same overall housing intensification is simply distributed more widely across that larger catchment. Well above MfE guidance metrics.

Figure 11: Evaluation of options for walkable catchments from the entrance points of rapid transit stops

Walkable catchments from the edge of Metropolitan Centre zones

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
Appropriateness	Could be appropriate as it is a commonly used metric for how far people will generally walk to a destination that is backed up with various research – but evidence also shows people will often walk further to a large centre due to quantity and range of novel facilities.	Appropriate as it is a commonly used metric that is backed up with various research - a 'walkable catchment' is generally around an 800m or 10min walk (or longer) to access major centres. Generally supported by MfE guidance.	Unlikely to be appropriate due to the very large areas of land included within the walkable catchments across Auckland and the implications of this on diluting intensification and walkability effect. Not as much evidence to support this distance for walking to metropolitan centres.	Unlikely to be appropriate as the metric is significantly above those recognised across various research and used in comparable cities. The dilution of the walkability effect would be most notable under this option.
Effectiveness	Results in a relatively small area of land within the walkable catchment and therefore limits the ability for intensification around Auckland's major centres.	Results in a much larger area of land (four times that of Option 1) within the walkable catchment and therefore provides more ability for intensification around Auckland's larger centres.	Results in a much larger area of land (than Option 2) within the walkable catchment – especially multiplying this across 11 metropolitan centres across Auckland. Dilution of the walkability effect as distances increase and catchment size increases.	Results in a huge additional area being added to the walkable catchment but without corresponding benefits of focussed intensification or increased propensity to walk (per household).
Efficiency	While this option has potential benefits of a tightly focussed area for intensification being realised (in terms of walking outcomes and redevelopment) it also comes with the opportunity costs of only identifying a small area for intensification around Auckland's major centres.	Would likely get benefits of a focussed area for intensification being realised (in terms of walking outcomes and redevelopment) without the costs.	While this option would provide the potential for a large amount of intensification around Auckland's major centres it could also undermine the intensification goal by dispersing uptake over a much larger area.	While this option would provide for the potential for a very large amount of intensification around Auckland's rapid transit stops, the area is so big that it could also undermine the intensification goal by dispersing uptake over a very large area.

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
Costs	Results in a relatively small area of land within the walkable catchment and therefore limited ability for intensification around Auckland's major centres. Has flow-on impacts to supress the metrics of how far away 'adjacent' can be considered under Policy 3(d).	Potential dilution of the walkability effect as the distance increase and catchment size increases.	The propensity to walk (per household) would be lower than Option 2. Potential to dilute the walkability effect as distances increase and catchment size increases.	The wider walkable catchment enables a large amount of additional capacity with little effect on the scale of demand which can result in a wider geographic spread of development. Distributing the anticipated demand across a larger area will reduce the average density across the catchment and likely see less intensification close to Auckland's major centres. The benefits of intensification around these locations will be diluted and this potentially undermines the intention of Policy 3(c) to focus growth around major centres. Likely to have fewer (per household) walking trips than smaller catchment options.
Benefits	The propensity to walk (per household) would be highest (i.e. the short distance would be more likely to be walked by those living in it). Encourages intensification in a small area, meaning intensification outcomes more likely to occur close to major centres.	The propensity to walk (per household) would be high (i.e. the relatively short distance would be more likely to be walked by those living in it). Encourages intensification in a relatively small area, meaning intensification outcomes more likely to occur close to major centres.	Provides a large amount of capacity around Auckland's major centres where the NPS-UD and the AUP direct intensification to be focussed.	Provides a very large amount of capacity around Auckland's major centres where the NPS-UD and the AUP direct intensification to be focussed.
Risks	Inconsistent with the metrics used for metropolitan centres by other NZ tier 1 urban areas. Conflicts with MfE guidance as a 400m catchment is under the suggested 'starting point' of 800m.	Does not follow the MfE guidance which suggests 800m around centres and stations as a good 'starting point'.	Risk in zoning large walkable catchment area that the intention of Policy 3(c) is undermined as the same overall housing intensification is simply distributed more widely across that larger catchment.	Risk that by zoning very large walkable catchments, the intention of Policy 3(c) is undermined as the same overall housing intensification is simply distributed more widely across that larger catchment. Well above MfE guidance metrics.

Figure 12: Evaluation of options for walkable catchments from the edge of metropolitan centres

Walkable catchment from the edge of the City Centre zone

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
Appropriateness	Not appropriate as this metric is too small based on the city centre's place at the top of the centres' hierarchy (the city centre would need to have the largest metric across all walkable catchments). 400m is under the suggested distance in the MfE guidance.	Could be appropriate for the city centre as it is a commonly used metric that is backed up with various research - a 'walkable catchment' is generally around an 800m or 10min walk to access services and amenities.	Appropriate as the city centre has the largest concentration of employment, entertainment, retail, civic amenities, education, and tourism services and activities in Auckland plus three rapid transit stations and there is evidence to show that people will (and do) walk this far to access the city centre. City centre is much larger than any metropolitan centre and this 1,200m metric sets the city centre apart from other metropolitan centres by moving up one increment (5 mins or 400m), reinforcing a clear hierarchy. Consistent with MfE guidance that suggests 800m around centres and stations as a good 'starting point' but also 'expects' the walkable catchment of Auckland's city centre to be larger than those of metropolitan centres.	Unlikely to be appropriate as the metric is significantly above that generally recognised across various research and used in comparable cities.
Effectiveness	Results in a relatively small area of land within the walkable catchment and therefore limited ability for intensification around Auckland's most prominent centre.	Results in much larger area of land (than Option 1) within the walkable catchment and therefore provides more ability for intensification around Auckland's most prominent centre.	Results in large area of land within the walkable catchment and therefore provides more ability for intensification around Auckland's most prominent centre but some risk of diluting the walkability effect as distances increase and catchment size increases.	Results in a large additional area being added to the walkable catchment but without the corresponding benefits of focussed intensification or increased propensity to walk (per household).
Efficiency	While this option has potential benefits of a tightly focussed area for intensification being realised (in terms of walking	Would get benefits of a relatively focussed area for intensification being realised (in terms of walking outcomes and redevelopment) but	Evidence shows people walk further than 800m to work in the city centre (people are prepared to walk further to use centres with a larger range of activities)	While this option would provide for the potential for a large amount of intensification around the city centre, it could also

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
	outcomes and redevelopment) it also comes with the opportunity costs of only identifying a small area for intensification around Auckland's largest centre and supressing other walkable catchment metrics for the metropolitan centres and rapid transit stops.	would also supresses other walkable catchment metrics for the metropolitan centres and rapid transit stops.	and other research shows that more dense, mixed use areas have a higher proportion of walking trips and people in these areas will walk further.	undermine the intensification goal by dispersing uptake over a much larger area.
Costs	Results in a relatively small area of land within the walkable catchment and therefore limited ability for intensification around Auckland's most prominent centre. Has flow-on impacts to supress the metrics of other walkable catchments as 400m for the city centre would have to be the largest metric across all walkable catchments based on the city centre's place at the top of the centres' hierarchy.	Has flow-on impacts to supress the metrics of other walkable catchments as 800m for the city centre would have to be the largest metric across all walkable catchments based on the city centre's place at the top of the centres' hierarchy.	The propensity to walk (per household) would be lower than Option 2. Potential to dilute the walkability effect as distances increase and catchment size increases.	The wider walkable catchment enables a large amount of additional capacity with little effect on the scale of demand which can result in a wider geographic spread of development. Distributing the anticipated demand across a larger area will reduce the average density across the catchment and likely see less intensification close to the city centre. The benefits of intensification around the city centre will be diluted and this potentially undermines the intention of Policy 3(c) to focus growth around the city centre. Likely to have fewer (per household) walking trips than smaller catchment options.
Benefits	The propensity to walk (per household) would be highest (i.e. the short distance would be more likely to be walked by those living in it). Encourages intensification in a small area, meaning	The propensity to walk (per household) would be high (i.e. the relatively short distance would be more likely to be walked by those living in it). Encourages intensification in a relatively small area, meaning	The city centre is much larger than any metropolitan centre and this 1,200m, metric sets the city centre apart from other metropolitan centres by moving up one increment (5 mins or 400m), reinforcing a clear walkable catchments hierarchy.	There is data to show that some people will and do walk this distance to the Auckland city centre (although not on average). Provides a very large amount of capacity around the city centre, potentially reinforcing its role.

	Option 1: 400m (5 min)	Option 2: 800m (10 min)	Option 3: 1,200m (15 min)	Option 4: 1,600m (20 min)
	intensification outcomes more likely to occur close to the city centre.	intensification outcomes more likely to occur close to the city centre.	Provides a large amount of capacity around the city centre, potentially reinforcing its role.	
Risks	A weak evidence base as this metric is smaller than local and international research on walkable catchments in relation to larger centres (and rapid transit stops – of which the city centre has three). Inconsistent with the larger metrics used for city centres by other NZ tier 1 urban areas (that have smaller city centres). Conflicts with MfE guidance as a 400m catchment for the city centre is well under the suggested 'starting point' of 800m and the further suggestion that the city centre walkable catchment should go beyond 800m.	Does not follow evidence that shows people walk further than 800m to work in the city centre (people are prepared to walk further to use centres with a larger range of activities). Does not follow the MfE guidance which suggests 800m around centres and stations as a good 'starting point' but also 'expects' the walkable catchment of Auckland's city centre to be larger than those of metropolitan centres. Inconsistent with the larger metrics used for city centres by Christchurch, Wellington, and Tauranga (other NZ tier 1 urban areas) that have smaller city centres.	Risks diluting the propensity to walk (per household) as distances increase and catchment size increases. Provides for intensification over a wider area, potentially dispersing the density rather than concentrating it on the city centre.	Risk in identifying a very large walkable catchment that the intention of Policy 3(c) of intensification focussed closely around the city centre is undermined.

Figure 13: Evaluation of options for walkable catchments from the edge of the city centre

5.4 How to determine which walkable catchments are appropriate for enabled heights beyond 6 storeys?

5.4.1 Overview

Four options were considered to determine which walkable catchments are appropriate for enabled height beyond six storeys as directed by Policy 3 (c). **Option 2: Based on an Multi Criteria Analysis**' (MCA) is the preferred approach. This option achieves the objective of implementing Policy 3(c) of the NPS-UD, whereby at least six storeys is enabled, and in those locations that are most appropriate 10 and 15 storeys are enabled.

5.4.1.1 Walkable Catchment heights in PC78

PC78 did not propose any specific additional height in walkable catchments beyond the at least six storeys directed by Policy 3(c) in the NPS-UD. Under PC78 all walkable catchments enabled to a height of six storeys and gave effect to the requirements of the NPS-UD. Any existing Height Variation Controls that enabled buildings beyond six storeys in these catchments remained unchanged.

The PC78 s32 report stated that "Further work is required to determine where heights of more than six storeys might be appropriate"[94].

5.4.1.2 What has changed since PC78 was notified?

A key change since the notification of PC78 is that the government has changed legislation and enacted the Resource Management (Consenting and Other System Changes) Amendment Act 2025 (**RMA Amendment Act**). This enables Auckland Council to replace PC78 with an alternative but also has resulted in several legislative requirements being placed on the council in relation to the PC78 replacement. Firstly, the replacement of PC78 must contribute to enabling a capacity of 2 million dwellings (the same as PC78)[95]. Secondly, the RMA Amendment Act requires the enablement of heights of 10 storeys in the walkable catchments of Mt Albert Train Station and Baldwin Avenue, and 15 storeys in the walkable catchments of Mangawhau[96], Kingsland and Morningside Train Stations.[97]

PC120 examines the potential for Auckland's walkable catchments to have enabled heights of more than six storeys. As mentioned in section2.2, Auckland Council must amend the AUP to provide at least the same capacity as PC78. PC120 aims to reallocate the PC78 enabled capacity from the broader suburban areas of Auckland into areas that are most suitable – including the walkable catchments. Therefore, PC120 proposes that the height limits in some walkable catchments are increased beyond the six storey minimum.

[94] Section 6.7.1.2 of the Intensification s32 report on PC78.
[95] Required by Schedule 3C clause 4 of the RMA Amendment Act
[96] Previously referred to as "Mt Eden" station
[97] The five legislated stations are required under Schedule 3C clause 4(1)(b) and (ba) of the RMA Amendment Act

As outlined in the PC120 s32 Overview Report, there is scope to enable additional height guided by the RPS. The RPS considers how the hierarchy of centres contributes to a well-functioning urban environment which supports a quality compact urban form.[98] It recognises that in some locations such as the inner city or where there is a greater concentration of amenities and better access via a range of transport modes, these locations could enable higher residential intensification.

The MfE guidance considers additional intensification may be appropriate in locations with high demand for residential and commercial space within a walkable catchment, where a metropolitan centre or city centre walkable catchment also contains the walkable catchment of a rapid transit stop, or where a walkable catchment enables access to planned and existing forms of public transport (including frequent public transport services).

As noted in section 5.4.1.2, additional height is directed to be enabled in the walkable catchments for the Maungawhau[99], Kingsland, Morningside, Baldwin Ave, and Mt Albert train stations. The options analysis in this section includes these named stations as part of each option. However, irrespective the conclusion of that option, it is noted that the government directed heights for the walkable catchments of these specific stations must be enabled in PC120.

5.4.1.3 Ranking of walkable catchments

Some of the options below for determining heights in walkable catchments propose a Multi-Criteria Analysis ('**MCA**') to rank all 66 of Auckland's walkable catchment in terms of their suitability for additional height. Further details on the MCA criteria and process are outlined in **Appendix 22**.

The MCA options in this s32 analysis rank the walkable catchments and then based on their scoring, split them into three groups:

- Appropriate for most additional height
- Appropriate for some additional height
- Appropriate for no additional height (i.e. have the minimum enablement of 6 storeys)

The specific additional height limits were not determined through this s32 report. Rather, the detailed rationale for the ten and fifteen storeys height limits in PC120 are discussed in the s32 evaluation report on Chapter H Residential and Business zones..

5.4.1.4 Method to enable additional height walkable catchments

The AUP contains a number of methods or tools in which can address the height enabled on a site (refer to **Appendix 7**). In general, PC120 proposes to rezone all the residential zones inside the walkable catchments to a modified THAB zone that enables building heights of at least six storeys (22m). Other zones (e.g. Business Mixed use, Town/Local/Neighbourhood centres, Business Park, excluding the Light Industrial and Heavy Industrial zones) within

[98] Regional Policy Statement: Urban Growth and Form Objectives B2.2.1 (1A, 1, 2), Policies B2.2.2 (4, 5); Residential Growth Objectives B2.4.1 (1, 3, 4, 5), Policies B2.4.2 (1, 2, 3, 4).
[99] Previously referred to as "Mt Eden" station

walkable catchments have their height standard amended to enable buildings of at least six storeys (where a site is within a walkable catchment).

However, for those walkable catchments where additional height beyond six storeys is to be enabled, PC120 proposes to use a Height Variation Control ('**HVC**') over the relevant zones[100] to increase the height.

5.4.1.5 How do qualifying matters affect heights in walkable catchments?

Height Variation Controls ('**HVC**') have been applied within the walkable catchments on the planning maps to enable heights of 10 (34.5m) or 15 (50m) storeys. The maps also show the spatial application of any of the qualifying matters. As such the heights discussed relative to each walkable catchment within this s32 may not reflect the actual heights enabled once qualifying matters are accounted for. In some cases, a qualifying matter could reduce the height specified in the HVC. How plan rules are interpreted is outlined in Chapter C of the AUP.

5.4.2 Description of options - How to determine which walkable catchments are appropriate for enabled heights beyond 6 storeys?

5.4.2.1 Overview

A total of sixty-six (66) walkable catchments have been identified throughout the Auckland Region as a part of PC120. The method by which walkable catchments are determined, including the distances used in the Auckland context are discussed in sections 5.2 and 5.3.

The AUP must enable building heights in all walkable catchments of least six storeys under the direction of Policy 3(c) of the NPS-UD.[101] To determine those walkable catchments that are suitable for heights beyond six storeys a number of different options were considered.

5.4.2.2 Option 1: Do minimum (do nothing beyond the minimum six storeys and legislated stations)

This option would only make amendment the AUP to increasing heights from the AUP zones to the minimum 6 storey in walkable catchments for rapid transit stops, the city centre, or metropolitan centres as required by the NPS-UD. This option would also implement the additional government mandated heights for the Maungawhau[102], Kingsland, Morningside, Baldwin Ave, and Mt Albert stations.

[100] The relevant zones within walkable catchments that are considered appropriate for additional height beyond six storeys are: THAB, Mixed Use, Town/Local/Neighbourhood Centre, Business Park. Further rationale for this is provided in Appendix 7.
[101] There are also some specific walkable catchments where additional height is directed by the RMA Amendment Act (2025) – Maungawhau, Kingsland, Morningside (15 storeys) and Baldwin Ave and Mt Albert (10 storeys).
[102] Previously referred to as "Mt Eden" station

5.4.2.3 Option 2: Based on a Multi-Criteria Analysis (MCA)

This option would involve the development of a multi criteria analysis ('**MCA**') containing factors to consider when identifying the most appropriate walkable catchments across Auckland for additional height.

The criteria would be based on principles established as a part of previous PC78 work and that align with the NPS-UD. This option would weight each of the criteria with emphasis placed on those criteria that best reflect the NPS-UD and the RMA Amendment Act (2025). The weighted score would then be used to rank all 66 walkable catchments. Different levels of intensification could be applied dependant on groupings of scores relative to one another. An HVC would be applied to all relevant zones within the walkable catchment to reflect the addition of 10 or 15 storeys. Further details on the development of an MCA including principles, criteria and scoring can be found in **Appendix 22.**

5.4.2.4 Option 3: Based on residential demand

This option would rank the walkable catchments based on the relative demand for land across each of the 66 walkable catchments. Residential demand reveals people's preferences of where they value living across the walkable catchments (via the relative demand for residential land in each walkable catchment).

Comparing the walkable catchments to one another based on residential demand shows the things people value, such as access to amenities, jobs and transport. Locations with higher land values generally offer better access to some, or all, of these things.

The ranking therefore provides a base for prioritising additional height within catchments. Capacity added in higher demand locations is more likely to be feasible for new homes (i.e. actually get built) and allow more people to locate nearer to things they value.

Residential demand is expressed as a median dollar value per square metre ($\$m^2$) and the method used to produce this data essentially strips out the influence of the underlying zoning. This means that the values do not consider any effect of the operative AUP zoning of land. Further details on calculating residential demand in walkable catchments can be found in **Appendix 23**.

5.4.2.5 Option 4: Based on the centres hierarchy, level of investment and presence of rapid transit stops

This option would group each of the walkable catchments based on the presence of metropolitan, town, or local centres, whether the catchment includes a rapid transit stop, and if it has received recent major investment (or imminent planned investment). The additional height would then be applied in some walkable catchments relative to the presence of all or some of these factors.

This approach would require less data for each walkable catchment than would be applied through the MCA approach (Option 2). Allocation of intensification would be based on the centre zone hierarchy, the presence of rapid transit stop within a walkable catchment, and the levels of investment from Auckland Transport.

The centres hierarchy is outlined in the Regional Policy Statement with the highest concentration of amenities and jobs in the city centre, stepping down to metropolitan, and then town, local and neighbourhood centres. Objective B2.5.1(2) provides:

> *Commercial growth and activities are primarily focussed within a hierarchy of centres and identified growth corridors that contribute to a well-functioning urban environment and a compact urban form.*

It is explained in Policy B2.5.2(2)

> *Support the function, role and amenity of centres by encouraging commercial and residential activities within centres, ensuring development that locates within centres contributes to a well-functioning urban environment and the following:*
>
> *(a) a high-density urban form that responds to a centre's accessibility by public transport, commercial activity and community facilities…*
>
> *(b) a diverse range of activities, with the greatest mix, concentration and density of activities in the city centre;*
>
> *(c) a distribution of centres that provides for the needs of people and communities…"*

At a district plan level, this policy direction is given effect to through zones and heights and plan provisions.

Under Option 4, all walkable catchments would be grouped based on these attributes and additional height could be allocated as follows:

- The most additional height would be allocated to walkable catchments that contain the city centre and metropolitan centres that are served by rapid transit stops and have received recent major investment.
- Some additional height would be allocated to the walkable catchments of metropolitan centres that are not served by rapid transit stops, to walkable catchments that contain a town centre(s) served by rapid transit, and to those walkable catchments that have received recent major investment to the stations.
- The standard six storey height would be allocated to all other walkable catchments.

5.4.3 Evaluation of options – How to determine which walkable catchments are appropriate for enabled heights beyond 6 storeys?

Figure 21 below evaluates the four options for how to determine which walkable catchments are most appropriate for enabled heights beyond the enablement of six storeys. Overall, '**Option 2: Based on an MCA**' is the preferred approach. This option achieves the objective of implementing Policy 3(c) of the NPS-UD, whereby at least six storeys is enabled, and in those locations that are most appropriate 10 and 15 storeys are enabled. The additional height would be enabled though applying an HVC which makes use of an existing method retaining the integrity of the zoning approach in the AUP.

The outcome of using 'Option 2: Based on an MCA' would identify the following 22 walkable catchments in Figure 14 for the most intensification (15 storey or 50m).

Walkable catchment	Type	Walkable catchment	Type
• City Centre	City Centre	• Manukau Metropolitan Centre	Metro Centre
• Karanga-a-Hape Train Station	Rapid Transit	• Greenlane Train Station	Rapid Transit
• Te Waihorotiu Train Station[103]	Rapid Transit	• Remuera Train Station	Rapid Transit
• **Waitematā** Train Station[104]	Rapid Transit	• Ōtāhuhu Train Station	Rapid Transit
• Maungawhau Train Station[105]	Rapid Transit	• Kingsland Train Station[106]	Rapid Transit
• Parnell Train Station	Rapid Transit	• Manukau Train Station	Rapid Transit
• Newmarket Metropolitan Centre	Metro Centre	• Albany Bus Station[107]	Rapid Transit
• Grafton Train Station	Rapid Transit	• Takapuna Metropolitan Centre	Metro Centre
• Newmarket Train Station	Rapid Transit	• Henderson Metropolitan Centre	Metro Centre
• Panmure Train Station	Rapid Transit	• Morningside Train Station[108]	Rapid Transit
• Glen Innes Train Station	Rapid Transit	• Henderson Train Station[109]	Rapid Transit

Figure 14: Walkable catchments appropriate for most additional height

[103] Previously referred to as "Aotea" or "Midtown" station
[104] Formerly Britomart Station
[105] Maungawhau (previously referred to as Mt Eden) train station ranked highly within the top 20 walkable catchments; it has also been identified as part of the Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 15 storey or 50m.
[106] Kingsland train station ranked highly within the top 20 walkable catchments; it has also been identified as part of the Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 15 storey or 50m.
[107] Only Albany's rapid transit walkable catchment ranked in the top grouping and has been identified for 15 storeys, the metropolitan centre walkable catchment for Albany extends beyond the rapid transit station and was identified for 10 storey.
[108] Morningside train station was not in the top grouping based on the MCA but has been identified by Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 15 storey or 50m.
[109] The Henderson Train Station walkable catchment is encompassed completely by the Henderson Metropolitan Centre walkable catchment, so assumes the greater height of the Metropolitan Centre catchment.

Figure 15 lists the walkable catchments for some intensification (10 storey or 34.5m).

Walkable catchment	Type	Walkable catchment	Type
• Ellerslie Train Station	Rapid transit	• Baldwin Ave Train Station[110]	Rapid transit
• Ōrākei Train Station	Rapid transit	• Avondale Train Station	Rapid transit
• New Lynn Metropolitan Centre	Metro Centre	• Akoranga Bus Station[111]	Rapid transit
• New Lynn Train Station	Rapid transit	• Sylvia Park Train Station	Rapid transit
• Albany Metropolitan Centre	Metro Centre	• Westgate Metropolitan Centre	Metro Centre
• Penrose Train Station	Rapid transit	• Papatoetoe Train Station	Rapid transit
• Smales Farm Bus Station	Rapid transit	• Constellation Bus Station	Rapid transit
• Puhinui Train Station[112]	Rapid transit	• Meadowbank Train Station	Rapid transit
• Sylvia Park Metropolitan Centre	Metro Centre	• Te Taha Wai Bus Station[113]	Rapid transit
• Mt Albert Train Station [114]	Rapid transit	• Williams Ave Bus Station	Rapid transit
• Sunnynook Bus Station	Rapid transit	• Pakūranga Bus Station	Rapid transit

Figure 15: Walkable catchments appropriate for some additional height

Figure 16 lists walkable catchments for the least intensification (6 storey or 22m).

Walkable catchment	Type	Walkable catchment	Type
• Manurewa Train Station	Rapid Transit	• Middlemore Train Station	Rapid Transit
• Botany Metropolitan Centre	Metro Centre	• Rosedale Bus Station	Rapid Transit
• Drury Metropolitan Centre	Metro Centre	• Pōhatu Bus Station[115]	Rapid Transit
• Drury Train Station[116]	Rapid Transit	• Homai Train Station	Rapid Transit
• Papakura Train Station	Rapid Transit	• Rānui Train Station	Rapid Transit

[110] Baldwin Ave train station has been identified by Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 10 storey or 34.5m. Note that the parts of the Baldwin Avenue walkable catchment that overlap with Morningside Train Station walkable catchment has heights of 15 storey,
[111] Note that the part of the Akoranga Bus Station walkable catchment that overlaps with the Takapuna Metropolitan Centre catchment has a height of 15 storeys.
[112] Note that the part of the Puhinui Train Station walkable catchment that overlaps with Manukau Metropolitan Centre walkable catchment has heights of 15 storeys.
[113] Previously referred to as Edgewater Bus Station
[114] Mt Albert train station has been identified by Resource Management (Consenting and Other Systems Changes) Amendment Bill to be enabled from 10 storey or 34.5m.
[115] Previously referred to as Burswood Bus Station
[116] Previously referred to as “Drury Central” or “(Te) Maketuu” station

• Sturges Rd Train Station[117]	Rapid Transit	• Swanson Train Station	Rapid Transit
• Koata Bus Station[118]	Rapid Transit	• Takaanini Train Station	Rapid Transit
• Glen Eden Train Station	Rapid Transit	• Te Mahia Train Station	Rapid Transit
• Pukekohe Train Station	Rapid Transit	• Ngākōroa Train Station[119]	Rapid Transit
• Papakura Metropolitan Centre	Metro Centre	• Paerātā Train Station[120]	Rapid Transit
• Fruitvale Rd Train Station[121]	Rapid Transit	• Sunnyvale Train Station[122]	Rapid Transit

Figure 16: Walkable catchments appropriate for minimum six storey height

5.4.3.1 How are heights applied where walkable catchment boundaries overlap?

There are several instances where walkable catchment boundaries overlap because of the proximity to one another. In some instances, entire walkable catchments are contained within others. Each walkable catchment was assessed on its own merits and the heights allocated according to the ranked position.

The general principle applied where walkable catchments overlapped with different heights is that the higher heights prevail. This approach was taken on the basis that the wording in the NPS-UD Policy 3 (c) directs … *building heights of at least 6 storeys.* In addition, the RMA Amendment Act requires *at least 10 or 15 storeys* to be enabled in the walkable catchments of the five named stations. The use of 'at least' means that the council is not restricted to these heights and could identify higher heights where appropriate.

Locations where this occurs on the proposed PC120 planning maps:

- Henderson Metropolitan (15 storey) and Sturges (6 storey) Road Walkable Catchments
- New Lynn Metropolitan (10 storey) and Fruitvale Road (6 storey)
- Te Taha Wai Bus Station (10 storey) and Koata Bus Station (6 storey) walkable catchments

The following walkable catchments are exceptions to the prevailing height being identified or where a slightly more bespoke approach was required given the extent of the walkable catchment.

[117] Note that the part of the Sturges Train Station walkable catchment that overlaps with the Henderson Metropolitan Centre catchment has a height of 15 storeys.
[118] Note that the part of the Koata Bus Station walkable catchment that overlaps with the Te Taha Wai Bus Station walkable catchment has a height of 10 storeys.
[119] Previously referred to as "Drury West" or "Ngaakooroa" station
[120] Previously referred to as "Paeraataa" station
[121] Note that the part of the Fruitvale Train Station walkable catchment that overlaps with the New Lynn Metropolitan Centre catchment has a height of 10 storeys.
[122]

Albany Metropolitan Centre and Rapid Transit Walkable Catchments

The Albany Bus Station walkable catchment is completely consumed by the Metropolitan centre walkable catchment (Figure 17). However, only the Albany rapid transit station walkable catchment was identified for the most height (15 storeys). Therefore, no changes were made to increase the heights for the overlapping Albany metropolitan centre walkable catchment which extends beyond the rapid transit station.

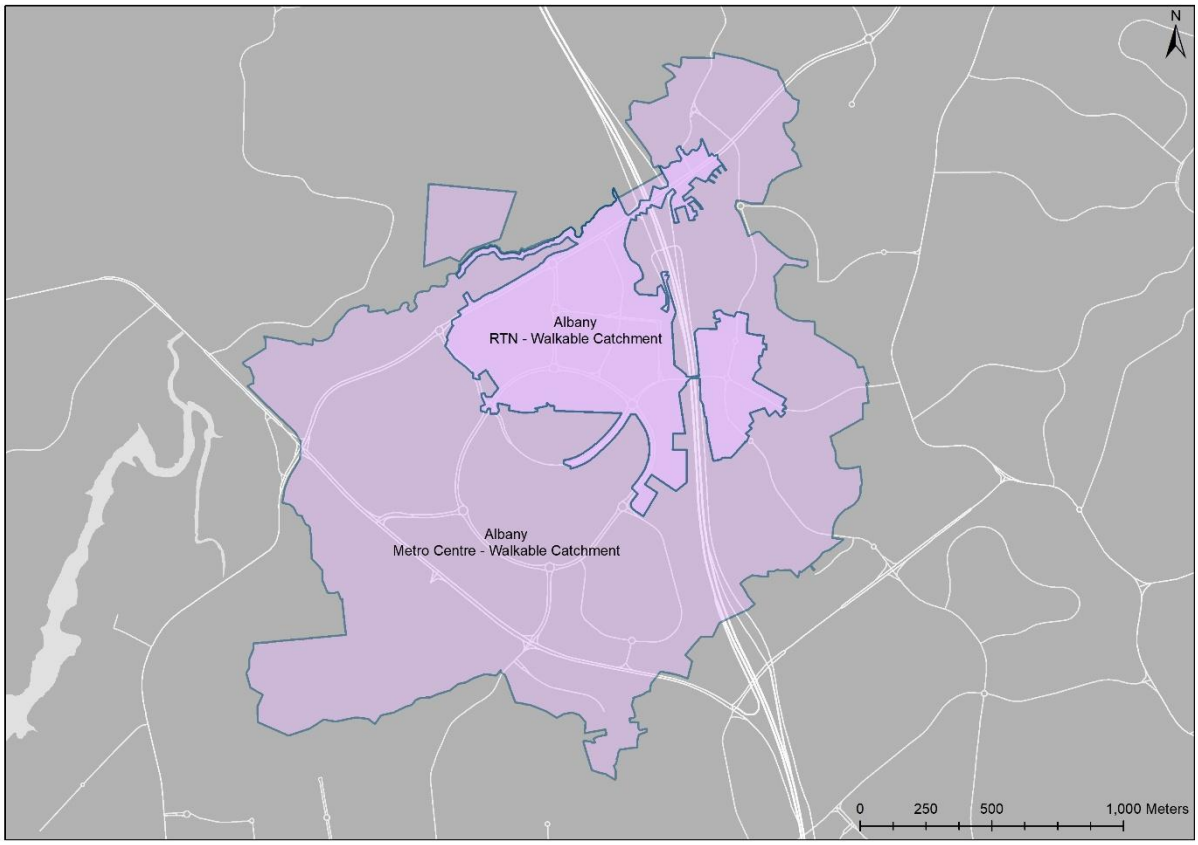


Figure 17: Albany Bus Station and Metropolitan Centre walkable catchments overlap

Takapuna Metropolitan Centre and Akoranga Rapid Transit Walkable Catchments

The overlap of these two walkable catchments occurs between Barrys Point Road and Fred Thomas Drive (Figure 18). The land in this area is bound by Rosmini College, land zoned open space and an inlet of the Waitematā Harbour. Applying the approach that the higher heights prevail, the most appropriate boundary for the 10-15 storey interface is Fred Thomas Drive. Therefore, the whole Mixed Use zone between Fred Thomas Drive and the estuary is proposed at 15 storeys or 50m. This means some land contained within Akoranga walkable catchment (identified for 10 storey), is proposed at a higher height.

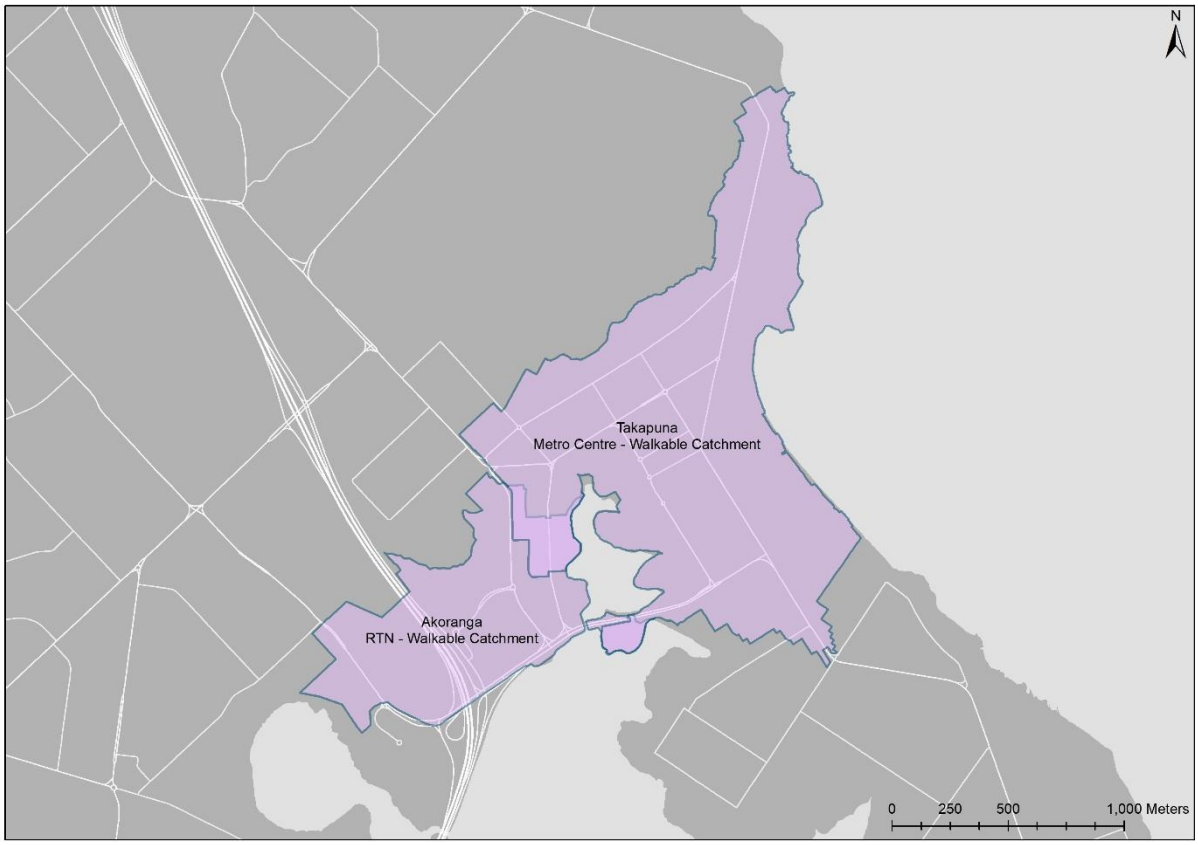


Figure 18: Akoranga Bus Station and Takapuna Metropolitan Centre walkable catchments overlap

Morningside and Baldwin Avenue Rapid Transit Walkable Catchments

As previously discussed, Morningside and Baldwin Ave are two of the five walkable catchments specifically named in the RMA Amendment Act to be enabled to building heights of at least 15 and 10 storeys respectively. A small portion of these walkable catchments overlap on the eastern side of St Lukes Road, mainly to the north of New North Road, and a small number of properties to the south of New North Road (Figure 19). For the purposes of the allocation of height St Luke's Road has been taken as the logical boundary for the allocation of the 15 storeys. This means a small area of the Baldwin Avenue walkable catchment has been identified for the higher height.

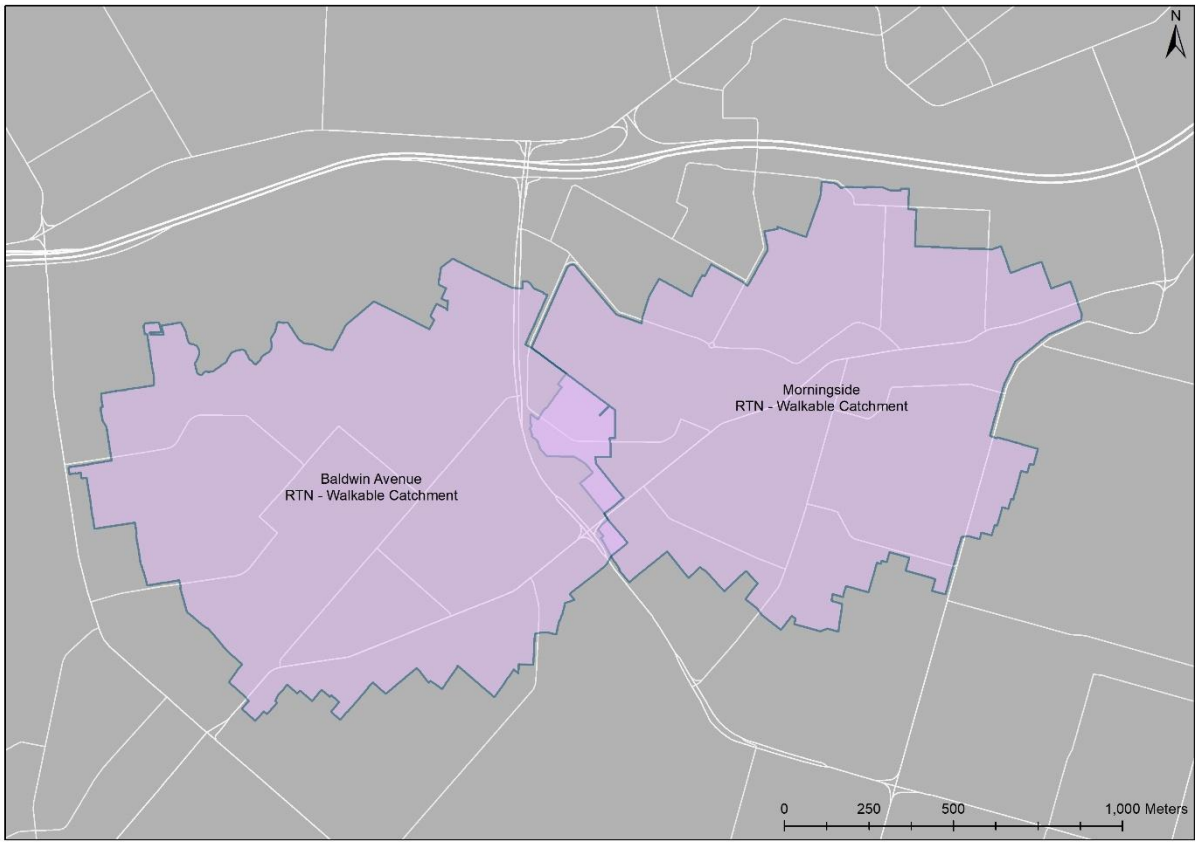


Figure 19: Baldwin Avenue Train Station and Morningside Train Station Walkable Catchments overlap

Manukau Metropolitan and Puhinui Rapid Transit Walkable Catchments

An overlap between these walkable catchments occurs around Plunket Avenue and Puhinui Road (Figure 20). These roads were taken as the logical geographic boundary and separation for the allocation of height. Where properties are on the eastern side of Plunket Avenue and are within both walkable catchments, the 15 storey height has been applied. Where properties are on the northern side of Puhinui Road and are within both walkable catchments, the 10 storey identified height for the Puhinui walkable catchment has been applied.

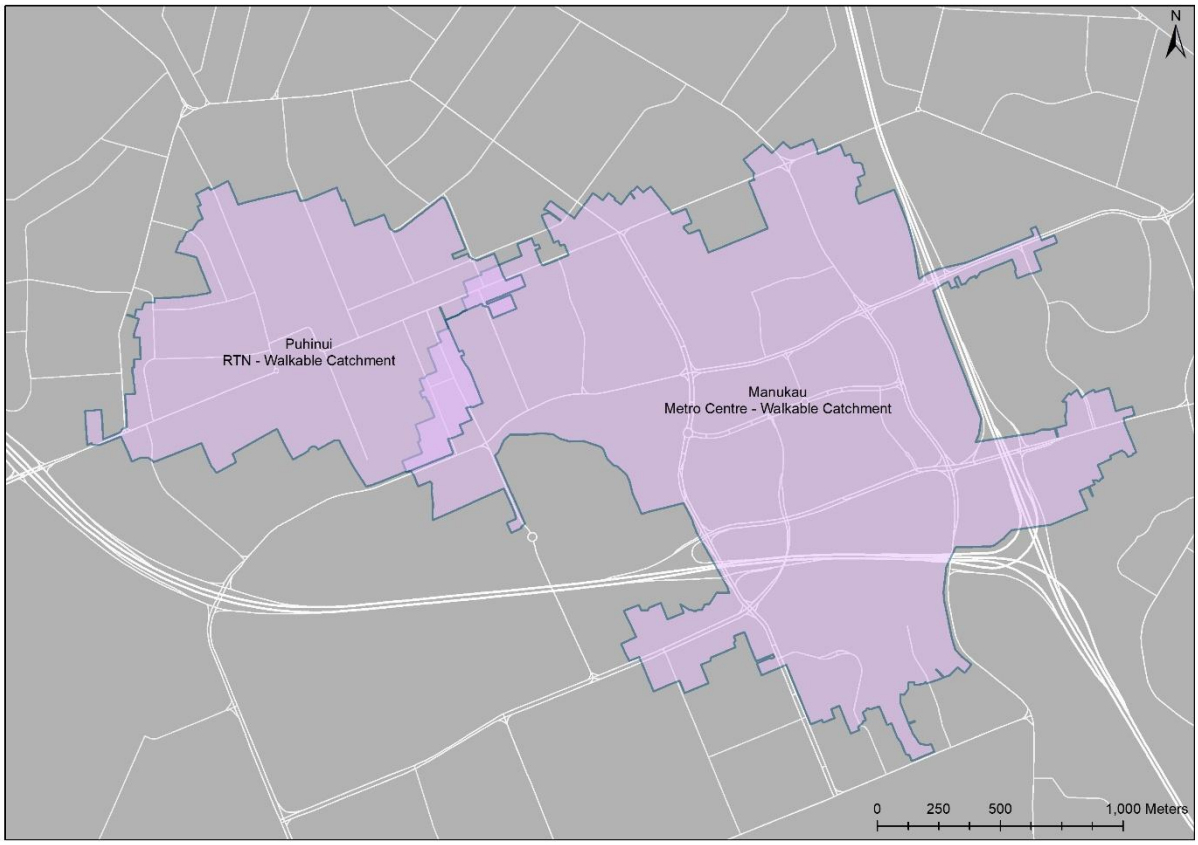


Figure 20: Puhinui Train Station and Manukau Metropolitan Walkable Catchments overlap

	Option 1: Do minimum (beyond the minimum six storeys and legislated stations)	Option 2: Multi criteria analysis with weighting	Option 3: Residential Demand	Option 4: Based on centres hierarchy, level of investment and presence of rapid transit stops
Appropriateness	Unlikely to be appropriate as it would not meet the capacity requirements of government or achieve an urban form based around centres and public transport.	Most appropriate as different levels of intensification can be applied dependant on how a walkable catchment scores against several prioritised factors.	Appropriate, would result in the implementation of Policy 3(c) through the application of different levels of intensification.	Appropriate, would result in the implementation of Policy 3(c) through the application of different levels of intensification.
Effectiveness	Ineffective in meeting the capacity requirements of government or in achieving an urban form based around centres and public transport, as additional height would be restricted to only certain locations. Would still achieve the intent of the NPS-UD in enabling a minimum of 6 storeys in all other walkable catchments and 10 and 15 in the legislated five catchments.	Enables heights that are greater than 6 storeys in locations with greatest demand and accessibility. The additional height provides opportunities for more intensive urban form in proximity to transport connections, employment opportunities and community amenities, supporting a well-functioning environment. This approach aligns with the RPS to establish a network and hierarchy of centres that provides an urban form with the city centre providing for the greatest height.	Implements Policy 3(c), however to a lesser extent than Option 2. This approach would not consider Council's long- term strategies, priorities, or significant investment. The approach provides some elements of feasibility in the enablement of capacity, in addition to proximity and accessibility to amenities people value such as conveniences and jobs. However, within this residential demand measure includes access via private vehicles (inconsistent with to NPS-UD direction). Accessibility and proximity are accounted for at a higher level and overall, the approach does not reflect wider planning outcomes or wholly align with the directives of the NPS-UD.	Would not be as effective in doing so as options 2 and 3. The approach is high level and so makes assumptions about locations relative to accessibility and the ability for locations to support intensification through access to services. Does not account for residential demand as an indicator of market demand or people's desire to live in a location.

	Option 1: Do minimum (beyond the minimum six storeys and legislated stations)	Option 2: Multi criteria analysis with weighting	Option 3: Residential Demand	Option 4: Based on centres hierarchy, level of investment and presence of rapid transit stops
Efficiency	Efficient process but does not take into account the wider capacity requirements of the government.	Requires greater level of analysis and therefore time taken to collect and apply data to produce outputs. Further consideration required to apply weighting. However, granularity provides stronger evidence base for level of intensification identified within walkable catchment. Weighting provides stronger alignment to policy direction.	Provides an efficient means by ranking each walkable catchment relative to one another based on a one factor. It provides clear groupings which could be used to identify locations appropriate for additional height, based on the principle that high demand locations are likely to be feasible for new homes and allow more people to locate near to things they value.	Fastest method to apply 10 and 15 storeys spatially across Auckland. However, doesn't provide quantifiable information for each walkable catchment's level of accessibility or demand for land.
Costs	This simple approach would not require any significant further analysis of the suitability of each walkable catchment. The lack of additional enabled height in walkable catchments would result in costs associated with a more widespread intensification approach – not focussed on centres and public transport.	Requires changes to THAB zone provisions and some business zones to incorporate controls (HVCs) to respond to 10 and 15 storeys. Although this work would be required given the minimum requirement to make changes to all residential provisions to respond to at least 6 storey within walkable catchments.	Limited consideration for a future state, only captures the current market. Would still require same updates to THAB and business provisions as options 2 and 4.	Would still require the same updates to THAB and business provisions as options 2 and 3.
Benefits	Avoids potential 'edge effects' in the transition from much higher buildings with lower intensity residential zones. Limits the level of urban form change in some	Multiple criteria reflect the various factors that need to be considered when identifying appropriate locations for intensification. Allows for different priorities to be reflected in decision making process. Places emphasis on and	This option would have similar outcomes as Option 2 generally in terms of the ranking and height applied to each walkable catchment. Differences observed relate to some metropolitan centres being considered for	Provides greatest distinction between each group of walkable catchments (and the levels of intensification applied to them).

	Option 1: Do minimum (beyond the minimum six storeys and legislated stations)	Option 2: Multi criteria analysis with weighting	Option 3: Residential Demand	Option 4: Based on centres hierarchy, level of investment and presence of rapid transit stops
	walkable catchments – providing more likelihood of retaining some semblance of lower density character.	best alignment to policy and legislation. Produces granular analysis of each walkable catchment relative to the criteria. Criteria and weighting would provide strong alignment with NPS-UD and legislation.	greater height in Option 2 than this option. This option provides more of a feasibility lens when compared to Option 4.	
Risks	High risk (legal and reputational) for the council – as it does notwholly follow the policy directives of Policy 3(c)	Some edge effects as a result of the change at the interface between higher and lower intensity zones. The demand for the additional height (10 and 15 storey) afforded to business zones through HVCs has not been tested.[123] The complexity of an MCA and weightings could prolong detailed debate (through submissions and hearings).	Sole reliance on demand data does not capture broader considerations to the extent necessary. Risks not capturing strategic goals of council.	Does not rely on as granular data and analysis when compared to options 2 and 3.

Figure 21: Evaluation of options to identify which walkable catchments are appropriate for intensification beyond 6 storeys

[123] It is noted that the addition of height within the mixed use and centre zones that the HVC's would enable would not all necessarily be made up of business uses and that the zone provisions provide for residential activities to locate within these zones.

5.5 How to measure the level of commercial activity and community services in Neighbourhood, Local and Town Centre zones?

5.5.1 Overview

Policy 3(d) of the NPS-UD directs intensification within and adjacent to neighbourhood, local and town centre zones. The level of intensification is directed to be 'commensurate' with the level of commercial activity and community services in the centre. Policy 3(d) states:

> "In relation to tier 1 urban environments, regional policy statements and district plans enable: (d) within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and densities of urban form commensurate with the level of commercial activity and community services."

The background to Policy 3(d) and an analysis of the following terms is included in **Appendix 8**:

- Commercial activities
- Community services
    - Community facilities
    - Educational facilities
    - Commercial activities that serve the needs of the community
- The area being measured for the levels of activities and services

Essentially, commercial activities are activities that trade in goods, equipment or services and include things like offices, retail, and commercial services.

Community services include community facilities which are things such as halls, libraries, marae, community centres, churches and arts and cultural centres. Community services also include educational facilities which are things such as childcare centres, schools, and tertiary education.

Community services also include "commercial activities that serve the needs of the community" which has the same meaning as 'commercial activities' (as covered above).

In terms of the area to be measured for the levels of activities and services, a logical reading of the policy requires the specific levels of activities and services in each of Auckland's individual neighbourhood, local, and town centre zones to be measured (i.e. those activities and services within the zoned centre area).

In order to apply policy 3(d), a method is needed to measure the 'level' of commercial activity and community services in each centre. There are over 500 Neighbourhood, Local and Town Centre zones across Auckland.

Five options were considered for how to calculate the level of activities and services of each centre. Overall, the preferred approach to measure the 'levels' of activities and services is

‘**Option 4: Based on the centre zone hierarchy, the size of the zone and the level of accessibility to a range of other amenities’**. This option is considered the most appropriate as the combination of the three variables provides a robust result and introduces accessibility as a variable that accounts for wider implications of intensification.

The next section outlines the five potential options for how to calculate the level of activities and services of each centre.

5.5.2 Description of options - How to measure the level of commercial activity and community services in Neighbourhood, Local and Town Centre zones?

5.5.2.1 Option 1: Based on centre zone hierarchy

Neighbourhood, local and town centres are types of business zones outlined in the Regional Policy Statement (refer section 5.4.2.5) and implemented through the AUP. Each type of centre is outlined in Figure 22 below in ascending order of the hierarchy.

Zone	Zone description	Number of centres in Auckland	Average size of centres	Centre examples
Neighbour-hood Centre	The Neighbourhood Centre Zone applies to single corner stores or small shopping strips located in residential neighbourhoods. They provide residents and passers-by with frequent retail and commercial service needs (i.e. dairy, takeaways, bakery). Residential use at upper floors is permitted.	400+	0.3 ha	Birkdale Road (pictured), Johns Lane, Pakūranga, Red Beach
Local Centre	The Local Centre Zone applies to a large number of small centres throughout Auckland. The centres are generally located in areas serviced by good public transport. The zone primarily provides for the local convenience needs of surrounding residential areas, including local retail, commercial services, offices, food and beverage, and appropriately scaled supermarkets. The zone also enables dwellings above ground floor.	75	3.3 ha	Torbay (pictured), Dawsons Road, Massey, Waiuku
Town Centre	The Town Centre Zone applies to suburban centres through Auckland. The centres are typically located on main arterial roads, which provide good public transport access. The zone services a wider area than local centres and provides for a wide range of activities including commercial, leisure, residential, tourism, cultural, community and civic	45	10.2ha	Royal Oak (pictured),

	services. Most centres are identified for growth and intensification and the height opportunities within the centre facilities increased intensification including office and dwellings above the ground floor.			Helensville, Mangere, Point Chev, Manurewa, Pukekohe

Figure 22: Zoning hierarchy of centres in the AUP

Option 1 uses the centre zoning hierarchy as a basic proxy for the 'level' of commercial activity and community services in each centre. The rationale for this is that the centre zone hierarchy clearly shows that each type of centre is likely to have a different 'level' of commercial activity and community services. Under this option the 'levels' could be classified as low for neighbourhood centres, medium for local centres, and high for town centres. These basic levels could be used as the indicators as to whether centres should have intensification within them.

5.5.2.2 Option 2: Based on the centre zone hierarchy and the actual floorspace existing in the centre

In combination with the centre zone hierarchy, another option to determine the different levels of commercial activities and community services in each neighbourhood, local and town centre across Auckland is to also measure the existing floorspace ('**GFA**') of the activities that are present in each centre. That is, the GFA of commercial activities such as retail, restaurants, and offices and the area of community services (libraries, education facilities etc).

This option uses the zone hierarchy together with the total GFA of each centre as a proxy for their 'level' of commercial activity and community services. The rationale for this is that the higher the GFA, the higher the 'levels' of commercial activity and community services. Under this option the 'levels' could be set at certain GFA thresholds, or the centre GFAs could be compared to each other to be classified 'small' or 'large' centres.

A high degree of analysis is required to determine the GFA of each centre. It is noted that this method also only captures a 'snapshot' in time of the 'levels' of commercial activities and community services in each centre. Centres are dynamic and some activities have a relatively high churn rate. For example, an existing commercial building in a centre could be tenanted by a restaurant one year, but the next year it could be converted into an office, or a shop, or could be vacant. Measuring the commercial activities of a centre at a set point in time does not capture this.

5.5.2.3 Option 3: Based on the centre zone hierarchy and the size of the zone

In combination with the centre zone hierarchy, another option to determine the different levels of commercial activities and community services in each neighbourhood, local and town centre across Auckland is to use the total zoned footprint area of each centre as a proxy for the 'level' of commercial activity and community services in each centre.

The rationale for this is that centres that are both higher in the centre zone hierarchy, and have larger zoned footprint areas, will likely have higher 'levels' of commercial activity and community services (including their potential over the long term). Under this option the 'levels' could be set based on the zone hierarchy and the relative size of the centre (this could be a size threshold or a comparison to be measured 'small' or 'large'. A generic example is outlined in Figure 23

Name of centre	Centre zone hierarchy 'level'	Centre area	Centre 'level' (size)
Centre 1	Local Centre	3.7ha	Large
Centre 2	Local Centre	1.2ha	Small
Centre 3	Neighbourhood Centre	0.2ha	Small
Centre 4	Town Centre	8.6ha	Small
Centre 5	Neighbourhood Centre	1.6ha	Large
Centre 6	Local Centre	1.3ha	Small
Centre 7	Town Centre	11.6ha	Large
Etc…	…	…	…

Figure 23. Example of classifying centres based on zone hierarchy and zone area

While Option 2 captures the levels of activities and services in the centre zone at a set point in time, Option 3 accounts for potential change to the areas of commercial activities and community services over time. There is a large variation in sizes of the Neighbourhood, Local and Town Centre zones across Auckland. The zoning footprint of Neighbourhood Centre zones range in size from 0.02ha to 8.2ha. Local Centre zones range from 0.25ha to 18ha and the Town Centre zones range from 2.1ha to 25ha.

The potential activities in each centre can be determined by looking at what the current AUP zoning enables. The Neighbourhood, Local and Town Centre zones enable a wide range of activities to occur as permitted activities (no resource consent required) such as retail, restaurants, offices, supermarkets, and healthcare facilities. Local and Town centre zones also enable community facilities, education facilities, recreation facilities, light manufacturing, warehousing, and marae complexes as permitted activities.

The Town Centre zone has the potential for larger types of commercial activities with more variety than the Local Centre zone due to the zone's slightly more enabling provisions. Correspondingly, the Local Centre zone also has the potential for a wider range and larger types of commercial activities than the Neighbourhood Centre zone.

Under Option 3 the potential 'level' of commercial activities and community services of each centre is measured using the zone footprint area of each centre. It is noted that a GFA measurement (Option 2) could more accurately differentiate the centres that may have higher existing building coverage and/or multi-level buildings through the GFA figure for each.

However, the Neighbourhood, Local, and Town Centre zones are enabling of quality new buildings to be established. All new buildings in these zones require a resource consent, but this is limited to assessing their design and appearance. All the centre zones enable a generous amount of height[124] and unlimited building coverage.

It is noted that the Town Centre zone generally enables more floorspace than the Local Centre zone due to the more generous development standards (e.g. height) and the permitted status of larger retail, office and supermarket activities. Correspondingly, the Local Centre zone also generally enables more floorspace than the Neighbourhood Centre zone.

Essentially, a well-designed building with a large amount of floorspace could conceivably be consented and built in any of the centre zones at any point in time and this could markedly change the total floorspace of that centre. This is why Option 3 measures the potential size of each centre based on the zone footprint measurement of each centre (rather than the size of the centre at a static point in time).

5.5.2.4 Option 4: Based on the centre zone hierarchy, the size of the zone and the level of access to a range of other amenities

Another option to determine the different levels of commercial activities and community services in each neighbourhood, local and town centre across Auckland is to add to Option 3 (zone hierarchy and zone size) to the accessibility of the centre. These three factors in combination could be used as a proxy for the 'level' of commercial activity and community services in each centre.

The rationale for adding in an accessibility variable is that the more accessible the centre, the higher the level of commercial activities and community services are likely to be in that centre. Further, the more accessible a centre is the greater the opportunity for those commercial activities and community services to be utilised by surrounding residences. The combination of these three variables therefore indicate locations that are more likely to be appropriate for residential intensification that contributes to a well-functioning environment.

The accessibility of centres can be calculated using an access score from Auckland Council's Framework for Urban Access ('**FUA**'). The access scores are based on the FUA methodology (see **Appendix 2**) and calculated by the FUA tool. The FUA methodology uses a combination of validated Auckland Council data and frequently updated public datasets to analyse access by public transport and/or walking to a range of opportunities (e.g. jobs, people, shops, schools…) across the urban area of Auckland.

To reflect the relative importance of different trip purposes, the results for each opportunity type are weighted using proportions from the New Zealand Household Travel Survey ('**HHTS**'). The HHTS is run annually by the Ministry of Transport and is the most comprehensive dataset available in New Zealand for understanding trip purpose distribution, both nationally and

[124] The standards in the AUP (prior to PC120) shows a 13m total building height in Neighbourhood Centre zone, 18m total building height in Local Centre zone, and each Town Centre zone has specific Height Variation Controls applying to it (ranging from 8.5m to 32.5m, with an average of around 19m-23m)

regionally. The result is a comparable 'access score' (between 0 and 1) at high spatial resolution across the Auckland urban area. The access score for each centre can be classified as high or low for the purposes of this exercise.

Under this option, to determine the 'levels' of commercial activity and community services the centres would be classified based on the three variables below:

- position in the centre zone hierarchy;
- size of the centre's zoned footprint area; and
- the access score.

A generic example is outlined in Figure 24 below.

Name of centre	Zone hierarchy 'level'	Zone area	Centre 'level' (size)	Access score	Access 'level'
Centre 1	Local Centre	3.7ha	Large	65th	High
Centre 2	Local Centre	0.9ha	Small	23rd	Low
Centre 3	Neighbourhood Centre	0.1ha	Small	44th	Low
Centre 4	Town Centre	8.6ha	Small	74th	High
Centre 5	Neighbourhood Centre	0.6ha	Large	12th	Low
Centre 6	Local Centre	1.3ha	Small	34th	Low
Centre 7	Town Centre	11.6ha	Large	86th	High
Etc	…	…	…	…	…

Figure 24: Example of classifying centres based on zone hierarchy, zone area, and access

5.5.2.5 Option 5: Based on certain 'indicator' facilities being present in a centre

Certain types of commercial activities and community services can be given an 'indicator' function, meaning the presence of all (or a combination of) these activities can be used as a proxy for determining the 'levels' of activities and services.

These 'indicator' activities could be large 'anchor' type activities that are popular, large, and relatively stable (i.e. unlikely to shift away or close down in the medium-term future). Examples of such activities and services could include:

- Supermarkets
- Leisure Centres
- Schools
- Tertiary education facilities
- Large parks
- Community Centres/Halls
- Medical facilities
- Libraries
- Department stores

However, a risk with this approach is that significant weighting is given to some specific commercial facilities that can change over time.[125]

5.5.3 Evaluation of options – How to measure the level of commercial activity and community services in Neighbourhood, Local and Town Centre zones?

Figure 25 below evaluates the five options for how to measure the level of commercial activity and community services in Neighbourhood, Local and Town Centre zones. Overall, the preferred approach to measure the 'levels' of activities and services is '**Option 4: Based on the centre zone hierarchy, the size of the zone and the level of accessibility to a range of other amenities'**.

Option 4 classifies the centres based on the three variables below:

- position in the centre zone hierarchy;
- size of the centre's zoned footprint area; and
- relative level of accessibility of the centre to other amenities.

These three variables in combination create a measure for determining the 'levels' of commercial activities and community services in each centre and provide an indication of how accessible the centre is to other amenities that are both attractive and necessary when enabling greater intensification in a location.

The centre zone hierarchy can be used as an initial filter for Auckland's 500+ centres. Neighbourhood centres are predominately very small (0.3ha on average) and will usually be made up of a handful of shops. In many cases, the Neighbourhood Centre zone applies to standalone dairies and petrol stations. Neighbourhood centres can be discounted as they do not facilitate a full range of services and activities to 'leverage' off for adjacent intensification.

Local and Town centres are considered to offer higher levels of activities and services (than Neighbourhood Centres) and therefore they require further analysis.

The size of the centre's zoned footprint area is a useful proxy for the levels of activities and services in the centre zone. When planning for the long-term intensification in and adjacent to

[125] For example, the Grey Lynn Woolworths supermarket in the Grey Lynn Local Centre zone closed in 2020 and became a 'dark store' (online only).

these centres, it is appropriate to determine the potential of what could occur in each centre, rather than simply what is occurring today. The preferred option therefore includes the zone footprint (rather than existing GFA) so that it is not limited to measuring the levels of activities and services at a 'snapshot' in time (i.e. Option 2).

Furthermore, a centre with a high access score is likely to have a higher level of commercial activities and community services than areas of lower access. Further the better the accessibility the greater the opportunity for intensification that contributes to a well-functioning urban environment.

Therefore, combining zone hierarchy and centre size with the centre's access score is considered the best measure of levels of services and activities. Using these factors there are two categories of centre are considered to have medium/high or high levels of services and activities, that may warrant intensification under the NPS-UD:

- Local Centres ('Large' in size with 'High' access)
- Town Centres ('Small' or 'Large' in size with 'High' access)

The outcome of using Option 4 is that 57 local and town centres across Auckland are classified as having medium/high or high levels of commercial activities and community services. The broad geographical spread of these centres is as follows:

- 16 centres in north and west Auckland
- 24 centres in the central isthmus
- 17 centres in south and east Auckland
- No policy 3(d) intensification is proposed in any rural settlement or on any offshore island (e.g. Hauraki Gulf islands)

It is worth noting that the concentration of these centres on the central isthmus and urban area of Auckland is consistent with the Auckland Plan and the Regional Policy Statement's compact city approach.

Based on **Option 4**, the local and town centres that require a commensurate response in terms of heights and densities of urban form are listed below.

Large local centres with a high access (23):

- Albany Village
- Balmoral
- Blockhouse Bay
- Botany Junction
- Chatswood
- Clendon
- Dawsons Road
- Eden Valley
- Greenlane West
- Grey Lynn
- Hobsonville
- Jervois Road
- Kelston
- Kepa Road/Eastridge
- Lynfield
- Mairangi Bay
- Mangere East
- Meadowbank
- Meadowlands
- Mt Roskilll
- Mt Wellington
- Te Atatū South
- Drury

Small or large Town Centres with high access (34):

- Avondale
- Birkenhead
- Browns Bay
- Devonport
- Ellerslie
- Glen Eden
- Glen Innes
- Glenfield
- Green Lane
- Highland Park
- Howick
- Hunters Corner
- Mangere
- Manurewa
- Milford
- Mt Albert
- Newton - Upper Symonds St
- Northcote
- Onehunga
- Ōtāhuhu
- Ōtara
- Pakūranga
- Panmure
- Papatoetoe
- Parnell
- Ponsonby
- Pt Chevalier
- Remuera
- Royal Oak
- St Lukes
- Stoddard Rd
- Sunnynook
- Te Atatū North
- Three Kings

A list of all the local and town centre zones in Auckland and their size and access scores is included in **Appendix 9** of this report.

	Option 1: Based on centre zone hierarchy	Option 2: Based on zone hierarchy and the actual floorspace existing in the centre	Option 3: Based on zone hierarchy and size of the zone	Option 4: Based zone hierarchy, size of zone, and centre accessibility	Option 5: Based on certain 'indicator' facilities being present in a centre
Appropriateness	Not appropriate as the zone hierarchy is too coarse a filter for an exercise that has significant zoning implications.	Not the most appropriate option as it is a static measure that could date relatively quickly. Not suitable for long term zoning decisions.	Not appropriate as the combination of the zone hierarchy and centre size would result in the identification of remote locations for intensification without considering broader implications of intensification in these locations. Only two factors in the filter are not enough for an exercise that has significant zoning implications.	Most appropriate as the combination of the three variables gives a more robust result and introduces a third factor that accounts for wider implications of intensification.	Not the most appropriate as this option places a high level of importance on a few facilities and does not consider regional geography of centre locations.
Effectiveness	Does not effectively address the issue as the methodology is too simplistic.	Effective at showing what is actually occurring in a centre, but only measures a 'snapshot' in time of levels of activities and services	Does not effectively address the issue as the methodology is too simplistic.	The geographic split of centres for intensification is concentrated on the isthmus and are all within the urban area - consistent with the compact city approach of the RPS.	Effective at finding the centres that have key facilities, but lacks a spatial component to consider the different geographic locations of centres (and their suitability for intensification).
Efficiency	Low costs to implement but does not produce a robust list of centres for intensification.	High costs to implement and measures only a 'snapshot in time', so could be out of date relatively quickly.	Low costs to implement but does not produce a robust list of centres for intensification.	Relatively quick and low cost to implement and results in a fairly robust list of centres for intensification.	Relatively high costs to implement and uncertain as to the accuracy of the indicators (in terms of warranting intensification).

	Option 1: Based on centre zone hierarchy	Option 2: Based on zone hierarchy and the actual floorspace existing in the centre	Option 3: Based on zone hierarchy and size of the zone	Option 4: Based zone hierarchy, size of zone, and centre accessibility	Option 5: Based on certain 'indicator' facilities being present in a centre
Costs	Results in some small centres or remote centres being deemed suitable for intensification (within and adjacent to the centre).	Large amount of data and research required to compile, and data can be out of date quickly with new developments or the closing of shops, restaurants etc.	Minimal GIS inputs for measuring centre sizes. Results in some remote centres being deemed suitable for intensification (within and adjacent to the centre).	Same GIS analysis as required for Option 3, further data to be produced from FUA tool for each access score. Has a 'cut-off' point so some centres that may be suitable for intensification will not be included.	Time spent gathering data and ground-truthing. Results in some small centres or remote centres being deemed suitable for intensification (within and adjacent to the centre).
Benefits	Simple exercise as the AUP already classifies the centres.	Provides a measurement of what is actually going on in a centre, rather than potential development (that may never be realised). Takes account of centres with existing large multi-storey buildings.	Simple and easy to understand option. Measures the zone rather than GFA and therefore takes into account potential future development.	Relatively simple and easy to understand option. Measures the zone footprint rather than GFA and therefore takes into account potential future development. Takes into account the regional geography of centre locations through access scores. Considers relative accessibility of locations.	Takes into account the main 'anchor tenants' of a centre. Discerns between similar sized or zoned centres where one has (for example) a supermarket and the other does not.
Risks	Risks small centres or centres in unsuitable locations being deemed suitable for intensification.	Only measures a 'snapshot' in time of levels of activities and services.	Risks centres in unsuitable locations being deemed suitable for intensification.	Risks being over-reliant on potential future development within centres that may not occur. Measures theoretical development, rather than actual development.	Risks that one of the indicator facilities might shift or close (no absolute guarantees). Risks centres in unsuitable locations being deemed suitable for intensification.

Figure 25: Evaluation of options to measure the level of commercial activity and community services in Neighbourhood, Local and Town Centre zones

5.6 Where ‘adjacent’ is in relation to Neighbourhood, Local, and Town Centre zones

5.6.1 Overview

Five options were considered to determine where ‘adjacent’ is in relation to Neighbourhood, Local and Town Centres. Two options were preferred, each dependant on the centre being a Local or a Town Centre. **‘Option 3: A walking distance of 200m’** is preferred for Local Centres and **‘Option 4: A walking distance of 400m’** for Town Centres.

The outcome of options 3 and 4 results in 57 centres identified for adjacent intensification under Policy 3(d). Neighbourhood centres do not form part of this analysis as discussed in section 5.5.3, given they do not facilitate a full range of services and activities to support ‘adjacent’ intensification.

5.6.1.1 What does ‘adjacent’ mean?

Policy 3(d) requires the council to enable heights and densities on land within and ‘adjacent’ to neighbourhood, local, and town centres. The term ‘adjacent’ is not defined in the RMA or in *Chapter J – Definitions* of the AUP.

Some background discussion on how to interpret the word ‘adjacent’ in the context of Policy 3(d) and based on case law is included in **Appendix 10**. It concludes that ‘adjacent’ generally includes properties that adjoin a centre, and those that are ‘close’ or ‘near’ to a centre.

Based on the preferred metric for measuring the size of the walkable catchments for metropolitan centres (outlined earlier in this report), the maximum possible threshold of ‘close’ or ‘near’ for Policy 3(d) is considered to be somewhere below 800m (10 minute walk) from the centre.

5.6.2 Description of options – Where is “adjacent” in relation to Neighbourhood, Local, and Town Centre zones?

5.6.2.1 Option 1: Immediately adjoining properties

This option includes only the properties that immediately ‘adjoin’ (i.e. share a common boundary) with the centre zone. Adjoining properties include all sites that share a boundary with the subject site, including sites adjoining at the top, bottom, or side boundaries of the subject site, as well as those that diagonally adjoin the site. Sites only separated from the subject site by roads (or small stream), including diagonally, can be considered to be adjoining.

Figure 26 below gives an example of which sites can be considered to be adjoining the site outlined in black.

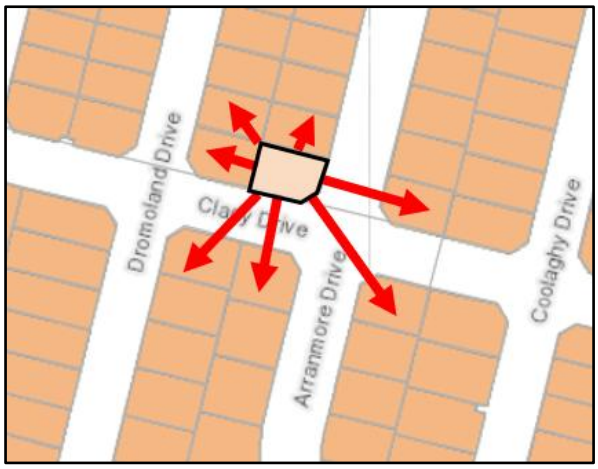


Figure 26: Example of 'adjoining' sites

Figure 27 below gives an example of applying the 'adjoining sites' methodology around the edge of the Milford Town Centre zone.

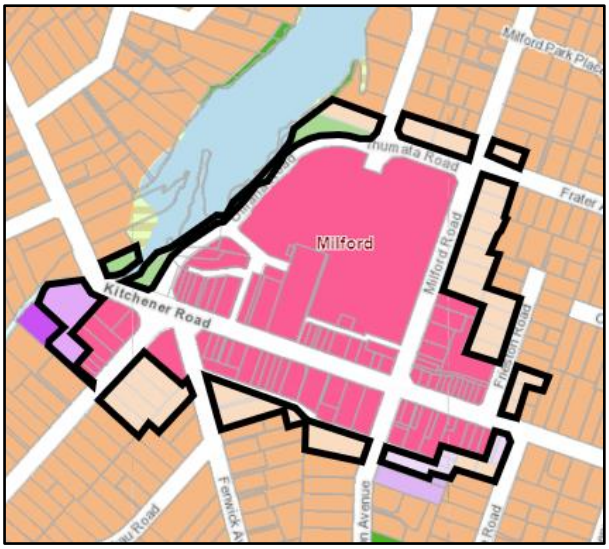


Figure 27: Example of 'adjoining' sites (outlined in black) around the edge of the Milford Town Centre zone (dark pink)

5.6.2.2 Option 2: Immediately adjoining blocks

This option includes all land that is part of an immediately adjoining block. This option uses road boundaries as the edge to the 'adjacent' area. Figure 28 below gives an example of applying the 'immediately adjoining blocks' methodology to the Milford Town Centre zone, with some distances to illustrate the scale.

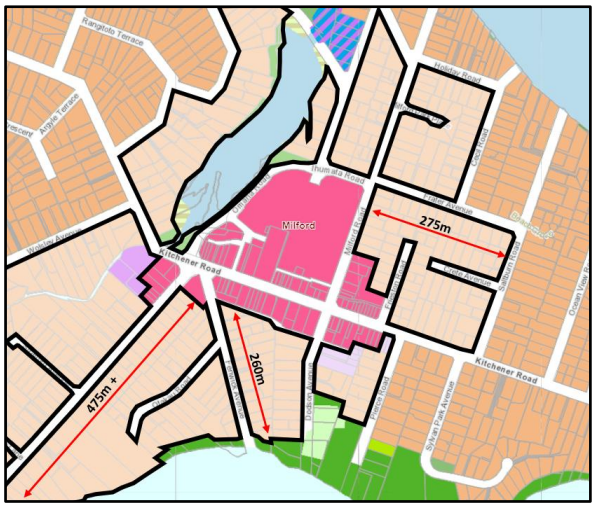


Figure 28: Example of immediately adjoining blocks (outlined in black) around the edge of the Milford Town Centre zone (dark pink)

5.6.2.3 Option 3: A walking distance of 200m

This option uses a 200m walking distance (based on GIS walking networks). Figure 29 below shows an example of applying a 200m walking distance from the edge of the Milford Town Centre zone. This analysis uses the walking network to travel 200m from the edge of the zone and then draws a line around all the furthest points of extent to create a polygon.[126]

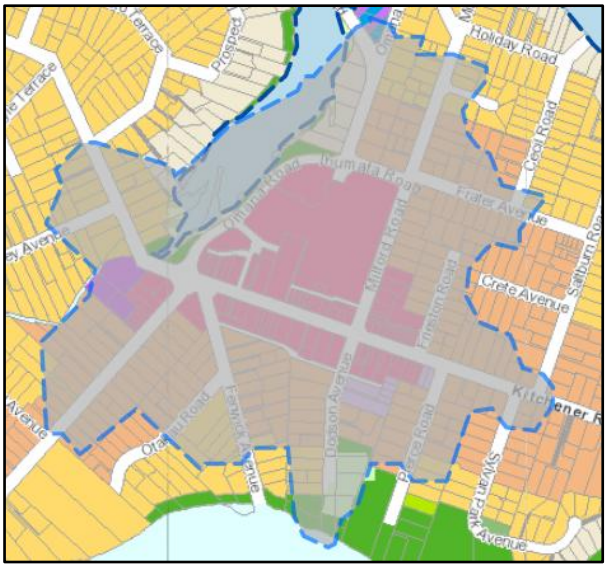


Figure 29: Example of 200m walking distance (blue GIS polygon) around the edge of the Milford Town Centre zone (dark pink)

[126] This explains the area of water included in the example below. There is obviously no walking network into the water, but it is included in the polygon as a result of joining two areas of furthest extent on either side of the water.

5.6.2.4 Option 4: A walking distance of 400m

This option uses a 400m walking distance (based on GIS walking networks). Figure 30 below shows an example of a 400m walking distance from the edge of the Milford Town Centre zone.

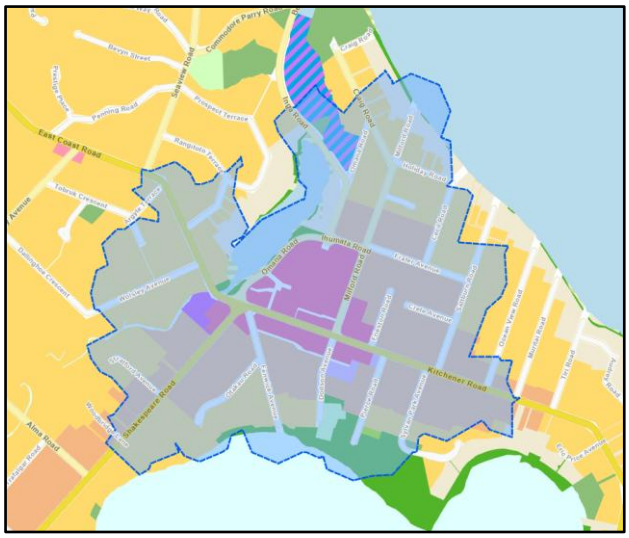


Figure 30: Example of 400m walking distance (purple GIS polygon) around the edge of the Milford Town Centre zone (dark pink)

5.6.2.5 Option 5: A walking distance of 600m

This option uses a 600m walking distance (based on GIS walking networks). Figure 31 below shows an example of applying a 600m walking distance from the edge of the Milford Town Centre zone.

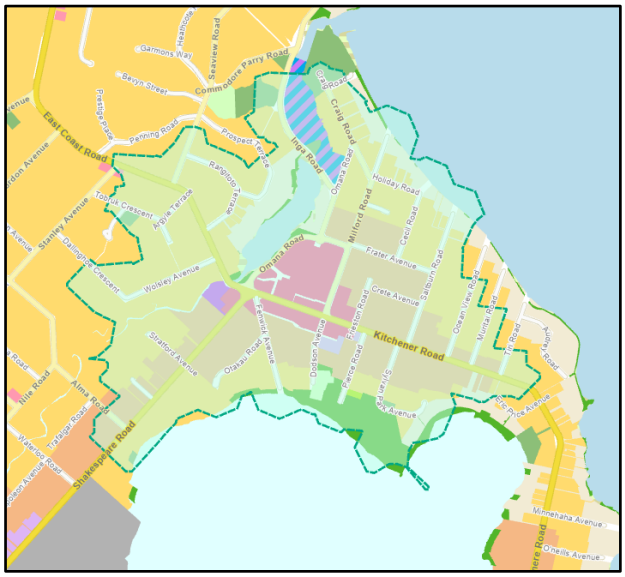


Figure 31: Example of 600m walking distance (green GIS polygon) around the edge of the Milford Town Centre zone (dark pink)

5.6.3 Evaluation of options – Where is "adjacent" in relation to Neighbourhood, Local, and Town Centre zones?

Figure 32 below evaluates the five options for determining where 'adjacent' land is in relation to Neighbourhood, Local and Town Centre zones. Overall, the preferred approach is a combination of **'Option 3: A walking distance of 200m'** and **'Option 4: A walking distance of 400m'**. That is, of the 57 centres identified for adjacent intensification under Policy 3(d), the local centres use a walking distance of 200m, while the large town centres use a walking distance of 400m.

The land adjacent to the 57 specific town and local centres is identified in the proposed plan change maps through a spatially demarcated layer called 'Adjacent to centre – Policy 3(d)'. This layer is for reference only and is not proposed to form part of the operative AUP planning maps. In total, these Policy 3(d) areas cover around 2,400ha of land in Auckland (outside of Policy 3(c) walkable catchment areas).[127]

These options provide logical areas adjacent to the centre for intensification based on actual walking distances (rather than 'as the crow flies'). They are also relatively small, contained areas adjacent to the centres for intensification. A distance of 400m (5 minute walk) is a widely accepted distance for how far most people will walk to local services, and the 200m distance is even easier to walk. These two options are appropriate as they reflect the different levels of services and activities in town and local centres.

[127] Policy 3(d) areas cover around 3,700ha in total, but a significant part of this overlaps with Policy 3(c) walkable catchments (which are applied first).

	Option 1: Immediately adjoining properties	Option 2: Immediately adjoining blocks	Option 3: A walking distance of 200m	Option 4: A walking distance of 400m	Option 5: A walking distance of 600m
Appropriateness	Not appropriate as provides a minimal area for potential intensification and covers a smaller area that case law interpretations of 'adjacent' would indicate.	Not appropriate as the irregular block sizes across Auckland could in many cases dictate a skewed zoning pattern 'adjacent' to the centres that does not achieve the intentions of the NPS-UD.	Appropriate for the lower category centres (large local centres and small-town centres) as the short distance reflects the levels of services and activities in those centres.	Appropriate for the higher category centres (large town centres) as the greater distance reflects the higher levels of services and activities in those centres.	Not appropriate as this distance is likely beyond 'adjacent' and is in fact close to the walkable catchment distance for rapid transit stops and metropolitan centres.
Effectiveness	Ineffective at providing the most suitable area for intensification around a centre.	Ineffective at providing the most suitable area for intensification around a centre.	Effective at providing a small, contained area adjacent to the centre for intensification.	Effective at providing a relatively small, contained area adjacent to the centre for intensification.	Effective at providing a relatively large area around the centre for intensification, but more likely to result in intensification being diluted over a wide area.
Efficiency	Simple to implement but comes with high costs of a small and potentially unsuitable area for intensification.	Simple to implement but comes with high costs of a small and potentially unsuitable area for intensification.	Relatively simple to implement and creates a logical area around the centre for intensification.	Relatively simple to implement and creates a logical area around the centre for intensification.	Relatively simple to implement but creates a large area around the centre for intensification.
Costs	Offers only a small area for intensification. In some cases adjoining properties are not as accessible to the centre as other properties.	Due to the irregular block sizes in Auckland (based on topography etc), the block sizes are highly variable could result in a very broad interpretation of 'adjacent'. Intensification may be spread over a wide	Relatively low GIS analysis to determine the area but some staff costs to refine boundary.	Relatively low GIS analysis to determine the area but some staff costs to refine boundary.	Relatively low GIS analysis to determine the area but some staff costs to refine boundary. Intensification may be spread over a wide area, diluting the benefits. A 600m (7.5 minute walk) is getting beyond the generally accepted distance that people will walk to 'local' services.

	Option 1: Immediately adjoining properties	Option 2: Immediately adjoining blocks	Option 3: A walking distance of 200m	Option 4: A walking distance of 400m	Option 5: A walking distance of 600m
		area, diluting the benefits. In other cases a small block size can result in less intensification being enabled than intended.			
Benefits	Intensification would generally be very focussed around the edge of the centre – rather than dispersed throughout a wider area.	Simple method that has clean boundaries and easy to understand.	Identifies properties that are actually close to the centre via a walking network (rather than 'as the crow flies'). 200m (2.5 minute walk) is a very short walk to local services.	Identifies properties that are actually relatively close to the centre via a walking network (rather than 'as the crow flies'). 400m (5 minute walk) is a widely accepted distance for walking to local services.	Identifies properties that are actually within walking distance of the centre via a walking network (rather than 'as the crow flies'). Results in a large area for intensification around a suitable centre.
Risks	Risks that in some cases adjoining properties do not actually have good access to the centre due to topography, street network etc.	Risk that the 'adjacent' area is determined by irregular block sizes, creating a skewed zoning pattern that does not meet the intention of the NPS-UD.	Could be mistakenly conflated with a 'walkable catchment' by the public.	Could be mistakenly conflated with a 'walkable catchment' by the public.	Could be mistakenly conflated with a 'walkable catchment' by the public, especially as the distance is close to the existing 800m walkable catchments for rapid transit stops and metropolitan centres. Intensification may be spread over a wide area, diluting the benefits.

Figure 32: Evaluation of options

5.7 How to enable heights and densities of urban form that are commensurate with the level of activities and services within and adjacent to each of the centres?

5.7.1 Overview

Policy 3(a) to (d) has been applied in a sequenced manner. In particular, the walkable catchments under Policy 3(c) were applied prior to the application of Policy 3(d). Therefore, when applying Policy 3(d), in some cases land adjacent to the 57 qualifying local and town centres was already located within a walkable catchment defined under Policy 3(c) (and therefore rezoned to THAB under Policy 3(c)). In these cases, the earlier work of Policy 3(c) requiring at least six storeys to be enabled took precedence. No changes to zonings inside a walkable catchment were made under Policy 3(d).

A non-statutory information layer of a brown outline is identified in the proposed plan change maps to show where Policy 3(d) applies to land adjacent to a local or town centre.

Further discussion on implementing Policy 3(d) is included in **Appendix 11**.

In applying Policy 3(d) an assessment was first undertaken to measure the "level of commercial activity and community services" in each centre. This assessment is outlined earlier in this section s32 report and in **Appendix 9**. This assessment resulted in 57 of Auckland's town and local centres being classified as having either medium/high or high levels of activities and services.

Policy 3(d) then requires the AUP to enable within and adjacent to these centres, building heights and densities of urban form commensurate with their medium/high or high levels of activities and services. Therefore, these centres with *medium/high* or *high* levels of activities and services must enable commensurately *medium/high* or *high* building heights and densities of urban form[128]).

The following sections evaluate four options for how to enable heights and densities of urban form that are commensurate within and adjacent to each of the 57 centres identified in the previous section 5.5. Overall, the preferred approach is **'Option 2 – Rezone adjacent land THAB'**. This option achieves the objective of implementing Policy 3(d) of the NPS-UD using an existing zone framework and retaining the integrity of the zoning approach in the AUP. This option also does not risk undermining the suburban centres by enabling centre-type activities outside the centre (i.e. potential diluting the centre uses across a wider area).

[128] It is considered that the intention of Policy 3(d) is to require greater heights and densities on adjacent land where the centres have medium/high or high levels of activities and services. It is not considered that the intention of the NPS-UD is to also require the heights and densities on adjacent land to be reduced if the centre itself has low levels of activities and services. In these cases, no changes would be made under Policy 3(d).

5.7.1.1 Determining 'commensurate' building heights and densities of urban form on land **within** centres

An analysis of the building heights and densities of urban form with neighbourhood, local, and town centre zones is covered in **Appendix 11**. Figure 33 below broadly summarises the levels of activities and services in the centres and the enabled heights and densities of urban form within each centre zone. The final column then compares the two results and whether the enabled heights and densities are at least commensurate with the levels of services and activities.

It concludes that the enabled heights and densities within all neighbourhood, local, and town centres are commensurate with the levels of activities and services in those centres. Therefore, no amendments to the AUP provisions are recommended to implement the part of Policy 3(d) relating to heights and densities of urban form within neighbourhood, local and town centres.

Centre type	Centre size	Centre accessibility	Level of activities and services	Enabled heights and density within centre	Are heights and densities at least commensurate with levels of activities and services?
Neighbourhood Centre	All	All	Low	Medium	Yes
Local Centres	Small	All	Low	Medium/High	Yes
Local Centres	Large	Low	Low	Medium	Yes
Local Centres	Large	High	Medium/High	Medium/High	Yes
Town Centres	All	Low	Medium	High	Yes
Town Centres	Small	High	Medium/High	High	Yes
Town Centres	Large	High	High	High	Yes

Figure 33: Measuring whether heights and densities within centres are commensurate with level of activities and services

5.7.1.2 Determining 'commensurate' building heights and densities of urban form on land adjacent to centres

The land adjacent to the 57 local and town centres that have medium/high or high levels of activities and services is covered by a variety of zones. The main zones adjacent to these centres are outlined in **Appendix 11**. The main residential zones adjacent to these centres are Mixed Housing Suburban and Mixed Housing Urban. These zones are considered to enable 'medium' enabled heights and densities.

Figure 34 below broadly summarises densities of urban form on the land adjacent to the various centre categories. The final column then compares the enabled heights and densities with the levels of services and activities to determine if they are commensurate with those.

Centre type	Centre size	Centre accessibility	Level of activities and services	Enabled heights and density adjacent to centre[129]	Are heights and densities (at least) commensurate with levels of activities and services?
Neighbourhood Centres	All	All	Low	Medium	Yes
Local Centres	Small	All	Low	Medium	Yes
Local Centres	Large	Low	Low	Medium	Yes
Local Centres	Large	High	Medium/High	Medium	No
Town Centres	All	Low	Medium	Medium	Yes
Town Centres	Small	High	Medium/High	Medium	No
Town Centres	Large	High	High	Medium	No

Figure 34: Measuring whether heights and densities adjacent to centres are commensurate with level of activities and services in these centres

Further detail around this assessment is in **Appendix 11**, but in summary the above table concludes that the enabled heights and densities in the adjacent zones are commensurate with the levels of activities and services in most centres. However, the heights and densities in the zones adjacent to the following centre types are not considered to be commensurate with the levels of activities and services in those centres:

- Local Centres ('Large' in size with 'High' access)
- Town Centres ('Small' or 'Large' in size with 'High' access)

It is the land adjacent to these centres that is required to enable heights and densities of urban form that are commensurate with the medium/high or high level of activities and services in those centres.

5.7.1.3 Plan methods available to enable greater heights and density of urban form

The AUP has a range of existing methods that could be used to enable greater heights and density of urban form within the walkable catchments. These are listed below and covered in more detail in **Appendix 7**.

- Rezoning:
  - Terraced Housing and Apartment Buildings zone (modified provisions)
  - Mixed Housing Urban zone (with modified provisions)
  - Mixed Use zone (modified provisions)
- Zone standards:

[129] Determined from the mix of adjacent zones.

    - Amend zone standards
- Precincts:
    - New precincts
    - Amend existing precincts
- Controls:
    - Height Variation Control ('**HVC**')
- Overlays:
    - New overlays

These methods will be considered and used to enable greater heights and densities or urban form.

5.7.2 Description of options – How to enable heights and densities of urban form that are commensurate with the level of activities and services adjacent to each of the centres?

5.7.2.1 Option 1: Status quo (do nothing)

This option would not make any specific amendments to the AUP in relation to the provisions in zones adjacent to the 57 local and town centres.

5.7.2.2 Option 2: Rezone adjacent land to THAB

Where intensification is recommended adjacent to a local centre or town centre under policy 3(d), the THAB zone can be applied to result in building heights and densities of urban form commensurate with the levels of activities and services within the centres. This option would rezone residential zones on land adjacent to specific centres to a modified THAB zone (but enabling the standard building height of 22m as is proposed as a part of this PC120, refer s32 Evaluation Report Chapter H Residential and Business zones).

In addition, a HVC would be added over adjacent land zoned Neighbourhood centre. In addition, Mixed Use zone with an existing HVC limit below 22m would be increased to 22m via an amended HVC.

5.7.2.3 Option 3: Rezone adjacent land to Mixed Use zone

Where intensification is recommended adjacent to a local centre or town centre under policy 3(d), the Mixed-Use zone can be applied to result in building heights and densities of urban form commensurate with the levels of activities and services within the centres. This option would rezone all the residential zones adjacent to the centre to the Mixed-Use zone.

5.7.2.4 Option 4: Retain zonings but add a Height Variation Control/Precinct/or Overlay to the adjacent land

This option would leave the zonings as they are on land adjacent to the 57 local and town centres (noting that where Policy 3(c) applies this land would already be proposed to be rezoned THAB). This includes any adjacent mixed-use zones. An AUP tool of a Height Variation Control, Precinct, or Overlay would be added to the adjacent land to enable more commensurate heights and density of urban form.

5.7.3 Evaluation of options – How to enable heights and densities of urban form adjacent to town and local centres that are commensurate with the level of activities and services within to each of the centres?

Figure 35 below evaluates the four options for determining how to enable greater heights and densities of urban form on land adjacent to Local and Town Centre zones. Overall, the preferred approach is **'Option 2 – Rezone adjacent land THAB'**.

	Option 1: Status Quo (Do nothing)	Option 2: Option 2: Rezone adjacent land to THAB	Option 3: Rezone adjacent land to Mixed Use zone	Option 4: Retain zonings but add a Height Variation Control/Precinct/or Overlay to the adjacent land
Appropriateness	Inappropriate as it does not implement Policy 3(d) of the NPS-UD.	Most appropriate as it uses an existing zone already set up for high density residential outcomes. Does not risk undermining the suburban centres.	Not appropriate as it introduces a tangible new supply of potential commercial land that risks the dilution of the suburban centres and potentially undermines the centres based approach in the Auckland Plan and the Regional Policy Statement section of the AUP. Potentially could be done where centre or area plans have already proven merit and there is evidence to show the centre will not be negatively impacted. However, in nearly all cases, this planning work has not been completed.	Not appropriate as it distorts the zone based approach in the AUP by introducing large differentials in the outcomes from the underlying zones to what the precincts/HVCs and overlays would enable. Seemingly simple but would create complexity by overlapping existing precincts/HVCs and overlays.
Effectiveness	Ineffective in implementing Policy 3(d).	Implements Policy 3(d) effectively providing for heights around selected town and local centres that are commensurate.	Implements Policy 3(d) but goes further than the Policy 3(d) height and density directions and enables a large mix of uses around the suburban centres.	Implements Policy 3(d) but new precinct/HVC or overlay would in many cases need to change development standards well beyond many of those within the current underlying zones.
Efficiency	Efficient process but does not implement the NPS-UD.	Minimal costs while implementing the NPS-UD.	Requires a high level analysis to ensure that the Mixed Use zoning won't undermine the role of the centres themselves by dispersing the centre-type activities	Keeps current zonings but uses a complicated plan method to enable greater heights and densities of urban form.
Costs	Does not commensurate heights and densities of urban form on land adjacent	Could result in some edge effects between the newly zoned THAB zone and	Will require each local and town centre to be analysed in detail	New precinct or overlay would require further work (spatial sets of objectives and policies).

	to specific local and town centres with medium/high or high levels of activities and services and accessibility – where density is directed by the NPS-UD.	adjoining lower intensity zones.	to see if the Mixed Use zoning is appropriate. Lower residential amenity and fewer zone protections for residents than the THAB zone (Option 2). Area or centre planning would needed before such a significant change in zoning.	Will lead to the new precinct/HVC or overlay overlapping with existing precincts/HVCs and overlays, with associated integration issues. Plan integrity issues with precincts/HVCs and overlays having large differentials in outcomes from the underlying zones, rendering much of the underlying zoning and related Auckland-wide provisions redundant.
Benefits	Could retain some of the existing suburban character of areas (except where THAB would apply under Policy 3 (c)).	Uses an existing zone already set up for high density residential outcomes. This includes changes within the zone proposed as a part of PC120 that enable greater range of local amenities (food and beverage) within the zone, placing residences even closer (although the centres themselves are very close). Increases residential capacity around selected suburban centres.	Allows for outward growth of centres and potentially a clearer business-residential land use transition. Could create more vitality within and adjacent to centres.	No need to change zoning so retains some of the integrity of the AUP spatial zone allocation. Avoids structural implications across the AUP. Precinct or overlay could include matters beyond height.
Risks	High risk (legal and reputational) for the council – as it does not follow directions to implement Policy 3(d).	Some edge effects as a result of the change at the interface between higher and lower intensity zones. The demand for the additional height resulting from an HVC increase afforded to business zones (town or local or adjoining neighbourhood centre) has not been tested.	Lack of evidence to justify this additional (potentially significant) supply of business land. Further information would be required to confirm that the centre zones themselves would not be negatively impacted by rezoning of adjacent residential land to Mixed Use. An oversupply of land for centre-type activities risks the	Risks plan integrity issues as while the zones would remain, the zone outcomes on land adjacent to some suburban centres will be significantly changed by the new precinct/HVC or overlay. Reputational risk to council as this approach could be seen to be obscuring the true implications of what is enabled on the land adjacent to suburban centres.

			dilution of the suburban centres and potentially undermines the centres based approach in the Auckland Plan and the Regional Policy Statement section of the AUP. Lack of area / centre planning to guide decision making for business zonings adjacent to suburban centres.	Inconsistent with the zoning approach taken in implementing Policy 3(c).

Figure 35: Evaluation of options to enable greater heights and densities of urban form in specific local and town centre

5.8 How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

5.8.1 Overview

The following sections evaluate five options to respond to building heights enabled adjacent to Town, Local and Neighbourhood Centres that are proposed to increase to respond to Policy 3 (d) as discussed in sections 5.5 to 5.7. Overall, the preferred approach is **'Option 4 – apply a HVC to centre zones that equal adjacent Residential THAB'**. This option achieves the objectives and policies of the AUP of providing for plan enabled height, density of urban form to reinforce centres as central hubs for their communities. This option provides adequate consideration of whether the land adjoining the centre has the modified (22m) THAB zone, further explained below.

5.8.1.1 PC120 changes to the THAB zone

The Terraced Housing and Apartment Buildings zone ('**THAB**') in the AUP enables a maximum height of 16m. NPS-US Policy 3(c) requires that building heights of at least six storeys are enabled within walkable catchments. PC120 amends the THAB zone to enable a maximum height of 22m (six storeys). However, this applies not only within the walkable catchments, but to all THAB zones across Auckland. This is further explained in the s32 Evaluation Report on Chapter H Residential and Business zones.

5.8.1.2 Town and Local Centres

Town and Local Centres, as provided for under the RPS[130] and the AUP objectives and policies,[131] contribute to a well-functioning urban environment by being focal points for their communities. Town and Local Centres do this by promoting commercial activity, providing employment, goods, and services for their regional or local catchments and being a focus for residential intensification.

Development in centres is to be of a form, scale and design quality so that centres are reinforced as the focal points for their community. Development is to be in keeping with the planning outcomes identified in the plan for the surrounding environment.

Additional height above standard heights are provided for in centres where it supports the role of centres, is commensurate with the level of commercial and community services, is compatible with a qualifying matter, is an efficient use of land, supports public transport, has adequate infrastructure, contributes to centre vitality and vibrancy, and can be accommodated without significant adverse effects on adjacent residential zones.

As outlined above, PC120 proposes to modify the THAB zone with a new height limit of 22m. This is a greater maximum building height than many of the Town and Local Centre Zones. Through zoning changes proposed in PC120, the THAB zone will increasingly make up the residential areas adjacent to local and town centres. This will replace the previous lower height

[130] B2.2 Urban Growth and Form, B2.3 A Quality Built Environment, B2.4 Residential
[131] H.10 Town Centres, H.11 Local Centres

Residential – THAB zones (16m) as well as the lower scale Residential – Mixed Housing Urban, Mixed Housing Suburban and Single House zones.

The modified THAB zone (22m) is applied in PC120 across Policy 3(c) walkable catchments, Policy 3(d) areas, along some corridors, and in some small areas of residual residential land. In certain cases, this can result in Town and Local Centre zones having less height enabled that the adjacent residential zone.

In the context of this change, the Local and Town Centre Zones maximum building heights need consideration as to whether they still appropriately provide for building height, density of urban form that achieves the objectives under the AUP for town and local Centres in an effective and efficient way.

It is noted that the heights in Policy 3(c) walkable catchments are covered by height standards in the zones that automatically lift the maximum height to match the heights enabled in the walkable catchments (or via a Height Variation Control for those walkable catchments that enable 10 or 15 storeys). However, the Policy 3(d) areas, corridors, and residual residential land do not have this mechanism. This means the existing Town and Local Centre height standards would apply.

PC120 identifies 14 Town Centres and 15 Local Centres that would be adjacent to a THAB zone of a greater height than the centre (and have no qualifying matter to reduce the height – for all or part of the centre zoned land).

5.8.1.3 Neighbourhood Centres

The AUP objectives and policies for Neighbourhood Centres are relatively restrictive (compared to Local and Town Centres) to reinforce their role in the centre hierarchy and to manage effects on residential amenity. However, the scale and intensity of development is directed to be in keeping with the planning outcomes identified in the plan for the surrounding environment. The maximum building height in the Neighbourhood Centre zone is 13m.

While Neighbourhood Centres have not been identified as centres for which further THAB intensification is adjacent to, many Neighbourhood Centres are now surrounded by THAB (22m) resulting from Policy 3(d) proposed intensification along corridors. PC120 identifies 43 Neighbourhood Centres as being surrounded by the modified THAB zoning (and have no qualifying matter to reduce the height).

5.8.1.4 What is the appropriate enabled height in Town, Local, and Neighbourhood Centres in light of the changes to the THAB zone height?

For Town and Local Centres Zones an existing AUP pattern of equal or greater height in centres compared to their residential catchment reinforces the role of centres as focal points, and their role to support residential intensification in and adjacent to centres.

A lesser height on these centre zones is applied where the standard zone height would have significant adverse effects on identified special character, identified landscape features, amenity, or other qualifying matters.[132]

For Neighbourhood Centres zones, the *existing* AUP pattern of development is rarely adjacent to THAB zoning and is more commonly set amongst surrounding Mixed Housing Urban, Mixed Housing Suburban, or Single House Zone. In this existing case, the existing AUP pattern is the provision of greater height in Neighbourhood centre zones than the adjacent residential land.

Figure 36 below summarises the maximum building heights of existing AUP zones and those proposed in PC120 relative to the centre zones. The table shows the existing pattern of greater heights in centres than their surrounds. It shows that as a result of PC120 changes to the THAB zone height (22m), many centres would no longer have heights enabled that are higher than surrounding residential zoned land. In fact, many centre zones would have lesser height enabled than the surrounding THAB zone.

Location	Zone	Existing maximum building height standard	Maximum building height standard in PC120[133]
Centre zones	Neighbourhood Centres	13m (unless a HVC applies)	13m (unless a HVC applies)
	Local Centres	18m (unless a HVC applies between 13-27m)	18m (unless a HVC applies between 13-27m)
	Town Centres	HVC applies between 13-48.5m	HVC applies between 13-27m
Zone proposed to mostly be adjacent to identified centres	Terrace Housing and Apartment Buildings	16m	22m
Zones adjoining identified centres	Mixed Housing Urban	12m	12m
	Mixed Housing suburban	9m	9m
	Single House	9m	9m

Figure 36: Summary of centre and surrounding residential building heights

5.8.1.5 Plan methods available to establish heights and density of urban form within Town, Local and Neighbourhood Centres to respond to changes in their surrounds

The AUP has a range of existing methods that could be used to enable greater heights and density of urban form. These outlined below and covered in detail in **Appendix 7**.

- Zone standards:
    - Amend Town Centre, Local Centre and Neighbourhood Centre zone standards
- Precincts:

[132] For example, Aircraft noise overlays, coastal inundation, Special Character Business Area Overlays, National Grid Corridor Overlays, Precincts, and Regional Maunga Viewshafts, Local public views, Local Maunga Viewshafts overlay, Auckland War memorial Museum Viewshaft Overlay

[133] Not included are those areas within a Policy 3(c) walkable catchment. The height is applied in these areas through the zone provisions and/or an HVC.

    - New precincts
- Controls:
    - New Height Variation Control ('**HVC**')
    - Amend HVC
- Overlays:
    - New overlays

5.8.2 Description of options – How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

5.8.2.1 Option 1 – Do nothing (status quo)

This option would not alter the maximum building heights within any Town, Local or Neighbourhood Centre zones, and therefore some centres would remain lower than the surrounding THAB zone.

5.8.2.2 Option 2 – Amend centre zone heights to be *equal to* the adjoining THAB zone

This option would amend the building height standards in Town, Local or Neighbourhood Centre zone chapters so that they are 22m in height, equal to the THAB zone. Existing HVCs with lesser heights would need to be removed, unless doing so was incompatible with a qualifying matter.

5.8.2.3 Option 3 - Amend centre zone heights to be *greater than* the adjoining THAB zone

This option would amend the building height standards in Town, Local or Neighbourhood Centre zones so that they are greater than the 22m THAB maximum height. Existing HVCs with lesser heights would need to be removed, unless doing so was incompatible with a qualifying matter.

5.8.2.4 Option 4 – Apply a HVC to centre zones that *equal* the adjoining THAB zone

This option would apply a Height Variation Control to Town, Local or Neighbourhood Centre zones where they adjoin THAB. The overlay would enable 22m building height to equal the THAB zone height. Any existing HVCs requiring lesser heights would be replaced, unless doing so was incompatible with a qualifying matter.

5.8.2.5 Option 5 – Apply a HVC to centre zones that are *greater than* the adjoining THAB zone

This option would increase the maximum building height in Town, Local or Neighbourhood Centre zones so that they are greater than the THAB zone. This is consistent with the AUP approach where Town and Local Centre zones generally have (at least) an additional 2m height above any adjoining the THAB zone, or an additional 6m height above adjoining Mixed Housing Urban zoned land. This approach would also not place artificial height restrictions on Neighbourhood Centres zones that happen to be with a Policy 3(d) area or along an intensified corridor. Any existing HVCs requiring lesser heights would be replaced, unless doing so was incompatible with a qualifying matter.

5.8.3 Evaluation of options – How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

Figure 37 below evaluates the five options for height in Town, Local, and Neighbourhood Centres adjacent to the modified THAB zone. Overall, the preferred approach is **'Option 4 – apply a HVC to centre zones that equal adjacent Residential THAB'**.

The outcome of the preferred option is that 14 town centres, 15 local centres, and 43 neighbourhood centres have a HVC enabling a maximum height of 22m applied to them. These specific centres are listed below:

Town Centres

1. Birkenhead
2. Glenfield
3. Highland Park
4. Hunters Corner
5. Mangere
6. Milford
7. Northcote
8. Ōtara
9. Pt Chevalier
10. Remuera
11. Royal Oak
12. Stoddard Rd
13. Te Atatū North
14. Three Kings

Local Centres

1. Blockhouse Bay
2. Botany Junction
3. Chatswood
4. Clendon
5. Eden Valley
6. Greenlane West
7. Grey Lynn
8. Hobsonville
9. Kepa Road / Eastridge
10. Lynfield
11. Mangere East
12. Meadowbank
13. Meadowlands
14. Mt Roskill
15. Te Atatū South

Neighbourhood Centres

1. 224-226 Kepa Road Mission Bay Auckland 1071

2. 164-178 Kepa Road Ōrākei Auckland 1071

3. 123 - 127 Mokoia Road Birkenhead Auckland 0626

4. 147 Mokoia Road Birkenhead Auckland 0626

24. 809-891 Mount Eden Road Mount Eden Auckland 1024

25. 587 - 615 Mount Eden Road Mount Eden Auckland 1024

26. 46- 50 Henley Road Mt Eden Auckland 1024

27. 235-241 Balmoral Road Sandringham Auckland 1025

5. 1 Rangatira Road – 36 Birkdale Road Birkdale Auckland 0626
6. 23-25 Ocean View Road Hillcrest Auckland 0627
7. 39 Northcote Road – 2 Sunnybrae Road Hillcrest Auckland 0627
8. 153 East Tamaki Road Ōtara Auckland 2023
9. 1-5 Paora Street – 76 Coates Avenue Ōrākei Auckland 1071
10. 127-137 Elstree Avenue Point England Auckland 1072
11. 539-618 Remuera Road Remuera Auckland 1050
12. 1/ 2- 9-12/2 Harris Road Mount Wellington Auckland 1051
13. 267 Pakūranga Road – 2 Johns Lane Pakūranga Auckland 2010
14. 88 - 96 Selwyn Road Howick Auckland 2014
15. 1 Litten Road Cockle Bay Auckland 2014
16. 39 Meadowland Drive Howick Auckland 2014
17. 128 Millhouse Drive Northpark Auckland 2013
18. 2 - 14 Great South Road Papatoetoe Auckland 2025
19. 40 Ashton Avenue Ōtara Auckland 2023
20. 164-176 Trafalgar Street – 370 Onehunga Mall Onehunga Auckland 1061
21. 881 Manukau Road – 109 Trafalgar Street Onehunga Auckland 1061
22. 653 - 655 Manukau Road Royal Oak Auckland 1023
23. 52A Landscape Road -112A Duke Street Mount Eden Auckland 1024
28. 410-416 Sandringham Road Sandringham Auckland 1025
29. 421 Sandringham Road Sandringham Auckland 1025
30. 502- 504 Sandringham Road Sandringham Auckland 1025
31. 245 Mount Albert Road -685 Sandringham Road Extension Sandringham Auckland 1025
32. 2-6 Potter Avenue, Wesley, Auckland, 1041
33. 2-4 Oakley Avenue -1495 Great North Road Waterview Auckland 1026
34. 1-4 Avondale Road Avondale Auckland 1026
35. 1A Gloria Avenue -1/458 Old Te Atatū Road Te Atatū Peninsula Auckland 0610
36. 108-110 Onewa Road Northcote Auckland 0627
37. 23-25 Ocean View Road Hillcrest Auckland 0627
38. 2-4 Carolina Place Albany Auckland 0632
39. 6 Coronation Road Glenfield Auckland 0627
40. 241 Glenfield Road Hillcrest Auckland 0627
41. 3-7 Manuka Road Bayview Auckland 0629
42. 573 -575 Glenfield Road Glenfield Auckland 0629
43. 33 James Street Glenfield Auckland 0629

	Option 1 – Do nothing (status quo)	Option 2 – Amend centre zone chapter heights to equal THAB zone	Option 3 - Amend centre zone chapter heights to be greater than THAB zone	Option 4 – Apply a HVC to centre zones that equal adjoining THAB zone	Option 5 – Apply a HVC to centre zones that are greater than adjoining THAB zone
Appropriateness	Not appropriate in providing height and density of urban form for centres to be the focal point of their communities.	Not appropriate as it does not consider where adjoining sites have not increased in height.	Not appropriate as it does not consider whether adjoining sites have not increased in height.	Appropriate as the centre height will respond to the changes to the residential catchment.	Appropriate as the centre height will respond to the changes to the residential catchment.
Effectiveness	Not effective at providing plan enabled scale and density in the centres to support their roles. Individual resources consents would be required to enable heights equal to surrounding THAB zone.	Effective in supporting the centres role by providing for heights at least equal to the surrounding residential catchments. Not effective in ensuring development is in keeping with the planning outcomes for lower density catchments.	Effective in supporting the centres role by providing for heights greater than their surrounding residential catchments. Not effective in ensuring development is in keeping with the planning outcomes for lower density catchments.	Effective in supporting the centres role by providing for heights equal to the surrounding residential catchments.	Effective in supporting the centres role by providing for heights greater than their surrounding residential catchments.
Efficiency	Inefficient as additional height would require individual resource consents.	Simple to implement through direct changes to zoning chapters.	Simple to implement. Requires determining appropriate additional building height.	Simple to implement changes to planning maps, requires identifying the centres to apply changes to height.	Simple to implement, requires identifying centres to apply changes to height and determining appropriate additional height.
Costs	Reduction in ability for centres to provide a focal points for their communities - with commercial and community services, civic space, local jobs and residential. Costs of resource consent applications	Potential loss of residential amenity from taller buildings adjoining residential purpose sites in particular where there are much lesser densities in the surrounding catchment.	Potential loss of residential amenity from taller buildings adjoining residential purpose sites including with much lesser densities.	Potential loss of residential amenity for immediately adjoining sites experiencing buildings of equal height on their boundaries.	Potential loss of residential amenity for immediately adjoining sites experiencing taller buildings on their boundaries.

	Option 1 – Do nothing (status quo)	Option 2 – Amend centre zone chapter heights to equal THAB zone	Option 3 - Amend centre zone chapter heights to be greater than THAB zone	Option 4 – Apply a HVC to centre zones that equal adjoining THAB zone	Option 5 – Apply a HVC to centre zones that are greater than adjoining THAB zone
	individually applying for additional height.				
Benefits	Potentially greater residential amenity for those sites adjoining centre zones due to lower building heights within centres on their boundaries.	Role of centres as focal points for communities is better maintained with benefits of commercial and community services, civic space, local jobs and residential.	Role of centres as focal points for communities is better maintained with benefits of commercial, civic, community, jobs.	Role of centres as focal points for communities is better maintained with benefits of commercial, civic, community, jobs.	Role of centres as focal points for communities is better maintained with benefits of commercial, civic, community, jobs.
Risks	Integrity of the plan, the centres' hierarchy and the role of centres as focal points for their communities is reduced.	Greater intensification of centres in inappropriate locations where there are less dense residential catchments and the loss of amenity or poor urban form outcomes.	Greater intensification in inappropriate locations and the loss of amenity or poor urban form outcomes.	Integrity of zoning height and policies which would retain a typically lower height than provided for in a number of centres.	Integrity of zoning height and policies which would retain a typically lower height than provided for in a number of centres.

Figure 37: How to respond to increased building heights enabled adjacent to Town, Local and Neighbourhood Centres

6 Other Residential Intensification - Context

The preceding sections of this report focussed on land subject to Policy 3(c) and 3(d) of the NPS-UD, generally referred to as "Policy 3 areas". Those Policy 3 areas also included the specifically legislated requirements under Clause 4(1)(b) and (c) of Schedule 3C of the RMA. This section and the following sections (7 and 8) of this report outline the approach to intensification beyond Policy 3 areas.

- Section 7: Corridors – Development and evaluation of options
- Section 8: Residual residential area – Development and evaluation of options

The AUP enabled approximately 900,000 dwellings across Auckland while PC78 (as notified, with MDRS) had a plan-enabled capacity of around 2 million dwellings. In withdrawing PC78 (in part) the council is required by the RMA to enable the same, or greater, housing capacity that is enabled through PC78 by amending the AUP. Some housing capacity will be contributed through operative PC 78 provisions (City Centre and, in the future, operative Metropolitan Centre) whereas the balance must be achieved by PC120. As noted in the s32 Overview Evaluation Report, the intensification aspects of PC120 do not apply to the City Centre or Metropolitan Centre Zones.[134]

A portion of the required capacity is proposed to be enabled through the response to the Policy 3(c) and 3(d) directions. This enables significant new residential intensification in walkable catchments and within and adjacent to smaller centres. However, further capacity is required to be enabled in the AUP to meet the capacity requirements set out in Clause 4(1)(a) of Schedule 3C of the RMA. This balancing of intensification approaches is best described in section 1.4 and section 6 of the s32 Overview Evaluation Report for PC120.

It is noted that PC120 does not cover 'greenfield' growth options to assist with achieving the government directed capacity figure.[135] PC120 only covers the "urban environment", which does not include Rural zoned or Future Urban zoned land.

The AUP already identifies a significant amount of greenfield land for Auckland's future urban expansion, following structure planning and sequenced infrastructure provision. There are around 10,000ha of Future Urban zoned land in the AUP, plus a large amount of 'live' zoned land (but as yet undeveloped).

There is public support for the Council's focus on growth in existing urban areas with 66 per cent backing this through consultation on the council's Future Development Strategy, and 74 per cent supporting more housing near jobs, shops and everyday services. This support is reflected in Auckland's strategic approach to growth is settings in the RPS (including Appendix 1A).

[134] Only two precincts that overlap with Business - Metropolitan Centre Zoning are included in PC120; hearings on Chapter H9 concluded under PC78.
[135] *"Christopher Luxon backs rural land for Auckland housing amid intensification debate"*, New Zealand Herald, 5 September 2025 (https://www.nzherald.co.nz/nz/auckland/christopher-luxon-backs-rural-land-for-auckland-housing-amid-intensification-debate/IVAUAOJMA5EGPBNY3MSNGOSROE/)

Overall, 82 per cent of new homes are built in existing urban areas, showing market demand is strongest near jobs, shops, public transport, and existing infrastructure. Growth in greenfield areas (undeveloped land) remains an important part of the council's overall strategy for Auckland's growth and for making sure people have housing choices.[136]

It is also relevant to note that large areas of 'live' zoned greenfield land in places such as Redhills, Drury, Warkworth, Milldale, and Auranga are included in the capacity for each *existing* urban zone[137] but are in fact urban expansions in greenfield areas. In light of this current greenfield development and the large area of land zoned Future Urban, it is considered that Auckland Council has sufficient areas for greenfield growth, and these do not need to be revised or expanded through PC120.

Therefore, this section of the s32 report examines the potential PC120 responses to meet the government directed capacity in existing urban areas and the application the NPS-UD to the urban environment – specifically along corridors and the residual residential area. The next two sections therefore assess the following matters:

- Other residential intensification: Corridors
    - How to determine which corridors are most suitable for residential intensification?
    - How wide should residential intensification apply along a corridor?
- Other residential intensification: Residual residential land
    - What zonings should apply across the residual residential area?

7 Other residential intensification: Corridors – Development and evaluation of options

7.1 Corridors: Overview

Residential intensification along corridors forms a part of the "other residential intensification" applying to residential land beyond locations specified by Policy 3 of the NPS-UD. Intensification responses along corridors sit outside of the walkable catchments and Policy 3(d) areas. Corridor intensification is not currently a policy requirement set by the NPS-UD or RMA to which the council must give effect. Corridors are proposed as a growth management method as part of the wider zoning response, to achieve the government requirements for plan enabled capacity .

Providing additional capacity along key public transport routes (rather than simply arterial roads) aligns with Auckland's Regional Policy Statement, supporting growth in a compact urban form, prioritising areas of highest access and demand.

The concept of intensification along corridors is notably different to the walkable catchments approach under Policy 3(c) of the NPS-UD. The walkable catchments are located around hubs

[136] *"Auckland's Draft Planning Rules: Myths vs Facts"*, Our Auckland, 9 September 2025 (https://ourauckland.aucklandcouncil.govt.nz/news/2025/09/auckland-s-draft-planning-rules-myths-vs-facts/)
[137] Potentially appearing as being brownfields intensification of existing zoned land.

or nodes (rapid transit stops or centres), whereas corridor intensification would follow along the public transport corridor itself (not linked to the location of stops or centres).

Corridor intensification therefore relies on the following assumptions:

- Public transport stops are relatively closely spaced along the corridor;
- The corridor contains (or has potential) for activities that people want to visit (in addition to a public transport stop); and
- The corridor itself has a degree of permeability – it can be crossed by pedestrians (i.e. a 'main' road corridor rather than a motorway corridor or a rail corridor).

The intensification response under Policy 3 has focused on catchment-based intensification around centres and rapid transit stops as nodes. Conversely, corridors are a form of linear intensification between these nodes along the frequent transit routes to complement the overall strategy of a compact urban form. Operationally these routes differ from rapid transit: the frequent transit routes are not dedicated public transport corridors but accommodate broader roading functions.

NPS-UD and RMA Reform

The NPS-UD does not currently direct territorial authorities to enable intensification along transport corridors (other than within walkable catchments of "rapid transit stops"). However, in June 2025, the Government released discussion document for how housing provision could operate under the new resource management system.[138]

One of the proposals for the future resource management system is to add new national directions requiring councils to intensify around two new categories of current or planned 'key public transit corridors' – Spine corridors and Primary corridors. Spine Corridors would be required to enable at least six storeys within a walkable catchment (400m or 600m from the edge of the road reserve of key transit corridors), while Primary corridors would need to enable at least three storeys. While this is not a statutory document and is still at a very early stage of development, it does suggest the direction of travel from the government and MfE towards intensification options along key public transport routes that do not meet the definition of 'rapid transit'.

7.1.1 Corridors in Auckland's planning documents

7.1.1.1 Auckland Future Development Strategy 2023-2053

The Future Development Strategy ('**FDS**') 2023–2053 outlines the long-term vision for growth and development in Auckland over the next 30 years. The FDS is a statutory requirement of the NPS-UD and replaces both the Auckland Plan 2050 Development Strategy and the 2017 Future Urban Land Supply Strategy.

[138] The changes proposed under Pillar 1 are intended to be legally implemented through Phase 3 of the Resource Management reforms, including amendments to the Resource Management Act and the National Policy Statement on Urban Development.

The FDS is relevant to an options assessment for potential intensification along corridors as clause 3.17 of the NPS-UD states that the council must have regard to it for a plan change. It also strongly encourages the council to use the FDS to inform the plan change.

Alternative Growth Scenarios, in addition to other qualitative and quantitative methods, were evaluated and resulted in key growth themes to inform the spatial response and principles for the FDS.[139]

The different growth scenarios included a range of underpinning assumptions, applying to all options evaluated. One assumption was that growth occurs in a compact urban form (more intensive in corridors and along key transport routes). In addition, concentrated growth around centres and corridors with planned RTN and FTN and moderate suburban infill and redevelopment was included within Scenario C.[140] This reflects a centres and corridors intensification principle.

Outcomes of the evaluation identified the following theme, further supporting higher residential intensification along FTN, in addition to centres and the RTN:

> "*land use and infrastructure integration, particularly transport, is fundamental to spatial outcomes.*
>
> - *Scenarios that focused growth within the existing urban area and specifically within the walkable catchments of the planned RTN/FTN performed better against transport criteria specifically but also environmental, social, cultural and economic criteria.*
> - *Compact urban forms perform better in terms of least monetary cost of infrastructure over time, as they result in more efficient use of existing services and new infrastructure. More expansive urban forms require the greatest amount of new infrastructure with the most significant costs*"[141]

7.1.1.2 Auckland Unitary Plan – Regional Policy Statement

The overarching objectives of the RPS seek to achieve a well-functioning urban environment and a quality compact urban form. *Chapter B2 - Urban growth and form* of the RPS describes a primary policy approach to achieve these high-level concepts through:

> "…focussing the greatest levels of residential intensification in areas with good accessibility, including by public or active transport, and around commercial centres and transport nodes and along major transport corridors." - B2.9 Explanation and principal reasons for adoption

The concept of supporting higher levels of residential intensification according to a hierarchy of centres and corridors is embedded in the objectives and policies of Chapter B2. In addition to intensification around centres, these objectives and policies refer to higher residential

[139] Section 3.1 Conceptual Growth Scenarios (FDS 2023-2053)
[140] Fig 4 of Section 3.1.1 Alternative growth scenarios (FDS 2023-2053)
[141] As described within Section 3.1.3 Key themes of FDS 2023-2053

intensification along identified corridors and close to public transport, social facilities (including open space) and employment opportunities. Some objectives and policies of the RPS which directly reference intensification along corridors are:

- B2.2. Urban growth and form
  - Policy B2.2.2(5) Enable higher residential intensification: (a) in and around centres; (b) along identified corridors; and (c) close to public transport, social facilities (including open space) and employment opportunities
- B2.3. A quality-built environment
  - Objective B2.3.1(1) A well-functioning urban environment with a quality-built environment where subdivision, use and development do all of the following … (b) reinforce the hierarchy of centres and corridors.
- B2.4. Residential growth
  - Objective B2.4.1(3) Land within and adjacent to centres and corridors or in close proximity to public transport and social facilities (including open space) or employment opportunities is the primary focus for residential intensification.

7.1.1.3 Auckland Unitary Plan – Zoning and Overlays

Intensification along road corridors is not a new concept to Auckland. Higher intensity business and residential zonings alongside key roads are included in the AUP. This linear form of intensification is more typical along Auckland's historic corridors where linear retail and mixed use has long existed, such as along the old tram lines (e.g. Manukau Road, Great South Road, New North Road, Dominion Road (Figure 38), Mt Eden Road, Sandringham Road). Other examples of higher intensity residential zones alongside road corridors in the AUP include Remuera Road (Figure 39), Pakūranga Road (Figure 40), and Lincoln Road (Figure 41) where THAB zoning occurs in a linear manner immediately adjacent to the road corridor.

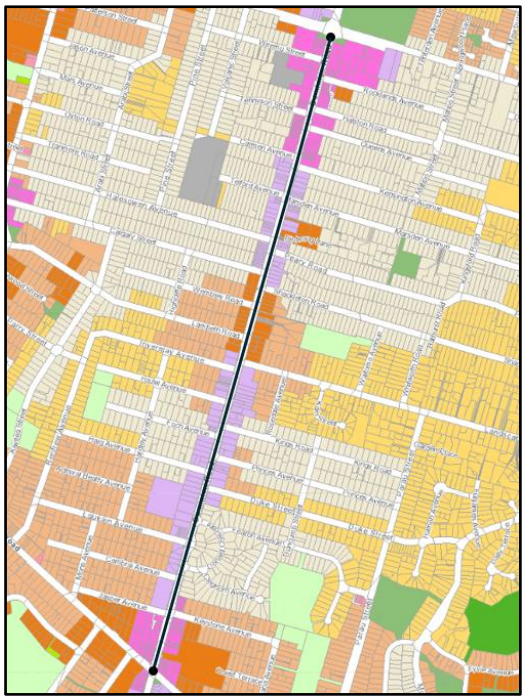


Figure 38: Dominion Road (between Balmoral and Mt Roskill) demonstrating Business Mixed Use and THAB zones adjacent to the road corridor.

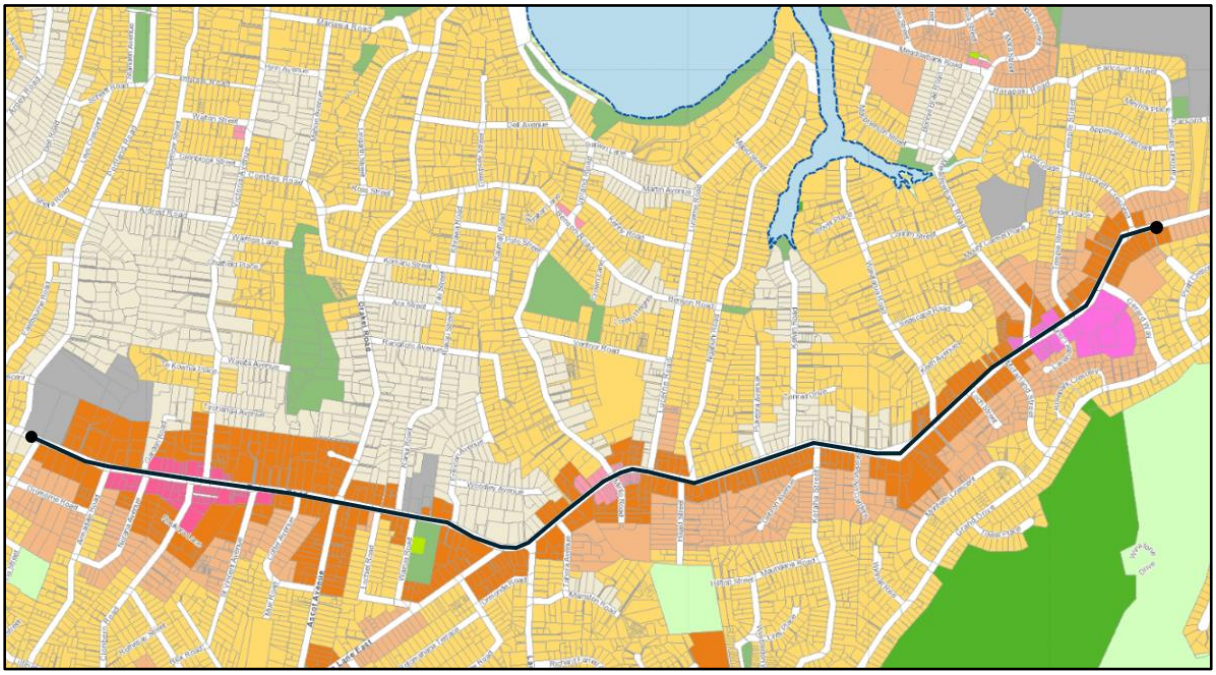


Figure 39: Remuera Road THAB immediately adjoining the corridor approximately one property deep.

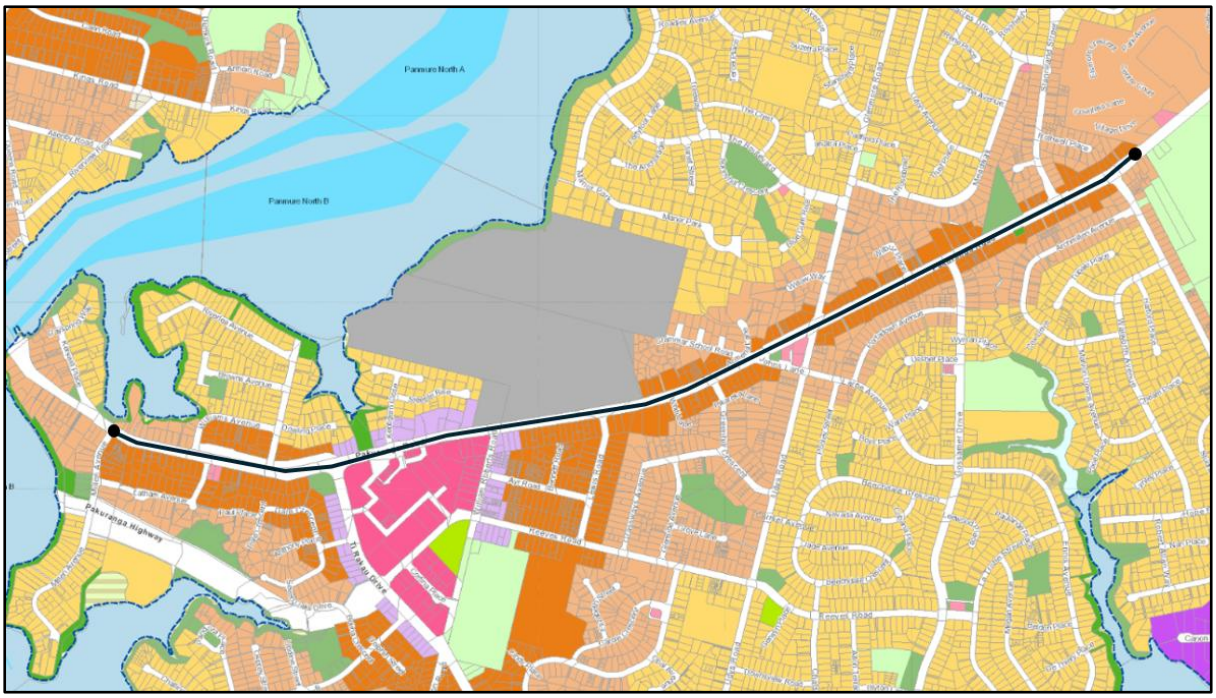


Figure 40: Pakūranga Road (between Pakūranga Town Centre and Cascades Road) showing THAB immediately adjoining the corridor approximately one property deep with Mixed Housing Urban Zone providing a grading of zone down to Mixed Housing Suburban.

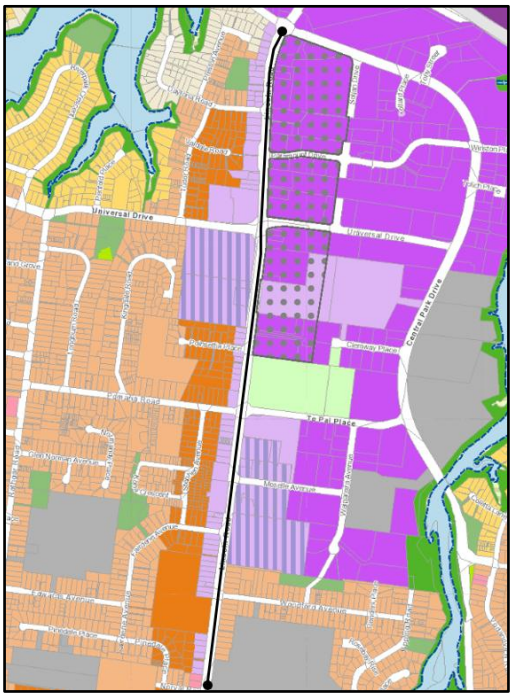


Figure 41: Lincoln Road exhibiting zones which provide for higher intensity of land use in a linear form adjacent to the road corridor (Business – Mixed Use Zone, Business – General Business Zone, THAB, Identified Growth Corridor Overlay shown to east of Lincoln Road).

The AUP also includes some provisions that, from their naming, appear to be an existing method in the Plan to enable residential intensification along corridors – but are in fact not. These are identified below:

- Chapter D22 of the AUP includes an "Identified Growth Corridor Overlay" that is principally to support alternative retail formats which may not be provided for in the underlying zone.[142]
- Chapter H22 is titled the "Strategic Transport Corridor Zone" which is a specific zone to provide for state highway and railway corridors to be developed and used for a wide range of activities associated with the transportation of people and goods.

Neither of these chapters of the AUP are relevant to enabling additional residential intensification and are principally related to retail or infrastructure matters.

The review of existing AUP provisions shows additional residential intensification adjacent to corridors is currently implemented through spatial application of a higher-intensity residential zone.

7.1.2 What are Auckland's corridors?

Intensification within walkable catchments of stops on the Rapid Transit Network ('**RTN**') is addressed through the response to Policy 3(c) of the NPS-UD (covered in section 6 of this report). The next level down on Auckland's public transport hierarchy are frequent bus routes, forming the Frequent Transit Network ('**FTN**').

- The **rapid transit network** is the backbone of the public transport network, with the highest levels of frequency and priority. Services on the RTN have dedicated routes separated from other traffic and they are expected to carry very high volumes of passengers.
- The **frequent transit network** is the core of the bus network, operating at least every 15 minutes between 7am and 7pm, 7 days a week. Frequent bus services carry the largest numbers of people and are generally supported by priority measures such as bus or transit lanes (including priority signals), which help to ensure they are less affected by congestion than other services.

The current and planned Frequent Transit Network is contained within the Regional Public Transport Plan 2023-2031. The Regional Public Transport Plan 2023-2031 ('**RPTP'**) outlines a ten-year public transport service plan for Auckland, with details about each public transport service, including their planned improvements. A map of the current and planned Frequent Transit Network is included in Figure 42 below.

[142] The overlay provides for predominantly large format retail that may not be appropriate or cannot locate in centres due to the size, scale or nature of the activity. The overlay offers a different activity status to activities which may otherwise not be provided for within the underlying zone.

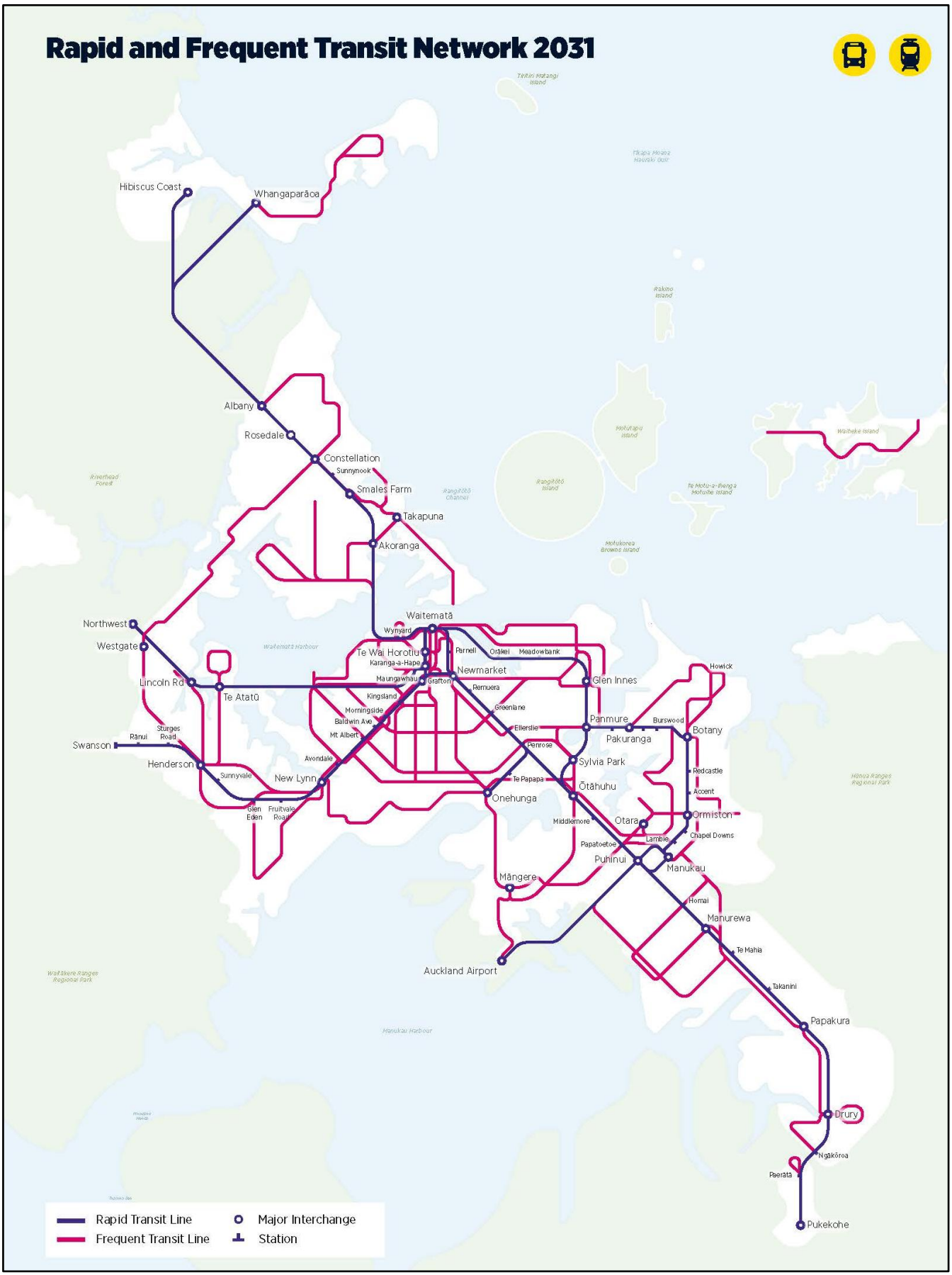


Figure 42: Rapid and Frequent Transit Network 2031 Map. Frequent Transit Network shown by pink line. (Not to scale)

The FTN is a network made up of different 'corridors' but is not officially separated into corridors. To assess which parts of the FTN are most suitable for residential intensification, the FTN must first be separated into different segments or 'corridors'.

The FTN includes approximately 43 bus routes, each varying considerably in length, geographic coverage, and degree of overlap with other routes. Using key bus routes (e.g. #25 or #70) as 'corridors' presents challenges for evaluation due to their lack of consistency and spatial precision. The complexity and scale of these routes make it difficult to draw meaningful conclusions about corridor-level performance or suitability for intensification.

Defining corridors by using commonly referenced transport corridors (e.g. New North Road, Great South Road, Great North Road, Lincoln Road) is also not straight forward. Opinions on what constitutes a 'key corridor' varies significantly and are often based on informal or locally contextualised understandings. These perceptions tend to focus on short segments within metropolitan, town, or local centres, many of which are already subject to intensification responses under Policy 3. Consequently, reliance on colloquial or anecdotal 'corridors' was not sufficiently robust for strategic analysis and risked misalignment with formal planning frameworks.

Therefore, the FTN was manually dissected into corridors for the purposes of PC120. Consideration was given to segmenting the FTN into equal-length sections to facilitate comparative analysis. However, this method proved complex and resource-intensive, requiring significant time to define and test each segment. Determining an optimal section length posed additional challenges: segments that were too short resulted in an excessive number of data sets and prolonged preprocessing, while segments that were too long encompassed multiple neighbourhoods, replicating the analytical limitations observed when using entire bus routes.

Ultimately, the FTN was dissected into a 'workable' list of corridors through a manual process. The start of this process involved importing the FTN 2031 as base shapefile into an online map viewer. The network was then cut into individual segments using the following broad principles:[143]

- Corridors should try to link centres (centres to centres)
- Corridors should generally follow one FTN bus route where possible.
- The number of suburbs that corridors traverse should be minimised.

This resulted in a total of 69 FTN corridors (as individual shapefiles, enabling spatial analysis), creating manageable sections of the wider network for analysis. These 'sections' of the overall network were then individually named and formed the base of FTN Intensification Corridors for further investigation. The figures below show the names and location all 69 FTN corridors.

Map Reference Number and Frequent Transit Network Corridor Name			
1	Howick to Pakūranga	36	Greenlane - Newmarket (GSR)
2	Botany to Manukau (via Ormiston)	37	St Johns - Remuera - Newmarket
3	Ormiston - Ōtara - Hunters Corner	38	Onehunga - Newmarket (Manukau Rd)

[143] Note that this was not possible in all cases due to overlapping routes.

4	Papatoetoe (old and new) to Manukau	39	Glenfield - Birkenhead
5	Burswood - Highbrook - Manukau	40	Greenlane East (Remuera Rd to Greenlane)
6	Papatoetoe - Ōtāhuhu - Sylvia Park	41	Mt Eden to Sandringham Rd via Valley Rd Shops
7	Glen Innes to Panmure	42	Mt Eden to Three Kings (Mt Eden Rd)
8	Panmure - Mt Wellington - Sylvia Park	43	Dominion Road (Mt Eden to Mt Roskill)
9	Ōtāhuhu - Mangere East	44	Sandringham Rd (Newton to Sandringham)
10	Papatoetoe Station - Mangere East	45	New North Road (Morningside to Avondale)
11	Manukau - Homai - Manurewa	46	Pt Chevalier Rd to Jervois Rd (Westmere - Herne Bay)
12	Manurewa - Takaanini - Papakura (via GSR)	47	St Lukes to Great North Rd (via Morningside and Kingsland)
13	Papakura - Drury	48	Great North Road (Ponsonby to Motat)
14	Drury Centre - Waihoehoe - Drury East	49	St Marys Bay to Ponsonby
15	Drury Auranga - Waipupuke	50	College Hill and Ponsonby Road
16	Te Atatū South - Te Atatū Peninsula	51	Great North Road (Pt Chev, Avondale, New Lynn)
17	New Lynn to Henderson	52	Rosebank Road to Avondale
18	Fruitvale - Glen Eden - Sunnyvale - Henderson	53	Westgate to Constellation (Upper Harbour)
19	Airport - Mangere - Mangere East	54	Ormiston Town Centre to RUB
20	Henderson - Lincoln Road	55	Howick to Botany (via Meadowlands, Chapel Rd)
21	Henderson - Westgate	56	Howick to Botany (via Meadowlands, Botany Rd)
22	Panmure - Ellerslie	57	Constellation to Mairangi Bay
23	Ellerslie - Greenlane	58	Mairangi Bay to Browns Bay
24	Greenlane - Western Springs (Via Balmoral)	59	Albany to Browns Bay
25	Glen Innes - Ōrākei (76)	60	University to Albany
26	Glen Innes to Ōrākei via Bays (Tamaki Link)	61	Ōtara Road Loop
27	Glen Innes - St Johns	62	Lake Road: Takapuna – Devonport
28	Mt Wellington - Pt Chev via Mt Albert Rd (66)	63	Smales Farm – Takapuna – Milford
29	Onehunga - Avondale (67)	64	Northcote – Takapuna
30	Onehunga - Blockhouse Bay - New Lynn (68)	65	Verrans Corner to Onewa Road
31	New Lynn to Glen Eden (via Titirangi)	66	Birkdale / Beach Haven loop
32	Homai - Clendon - Manurewa	67	Paerātā
33	Te Mahia - Clendon - Puhinui Rd	68	Whangaparoa
34	Mangere East - Mangere - Onehunga	69	Waiheke
35	Onehunga - Sylvia Park - Ōtāhuhu		

Figure 43. List of all FTN corridors and map reference numbers.

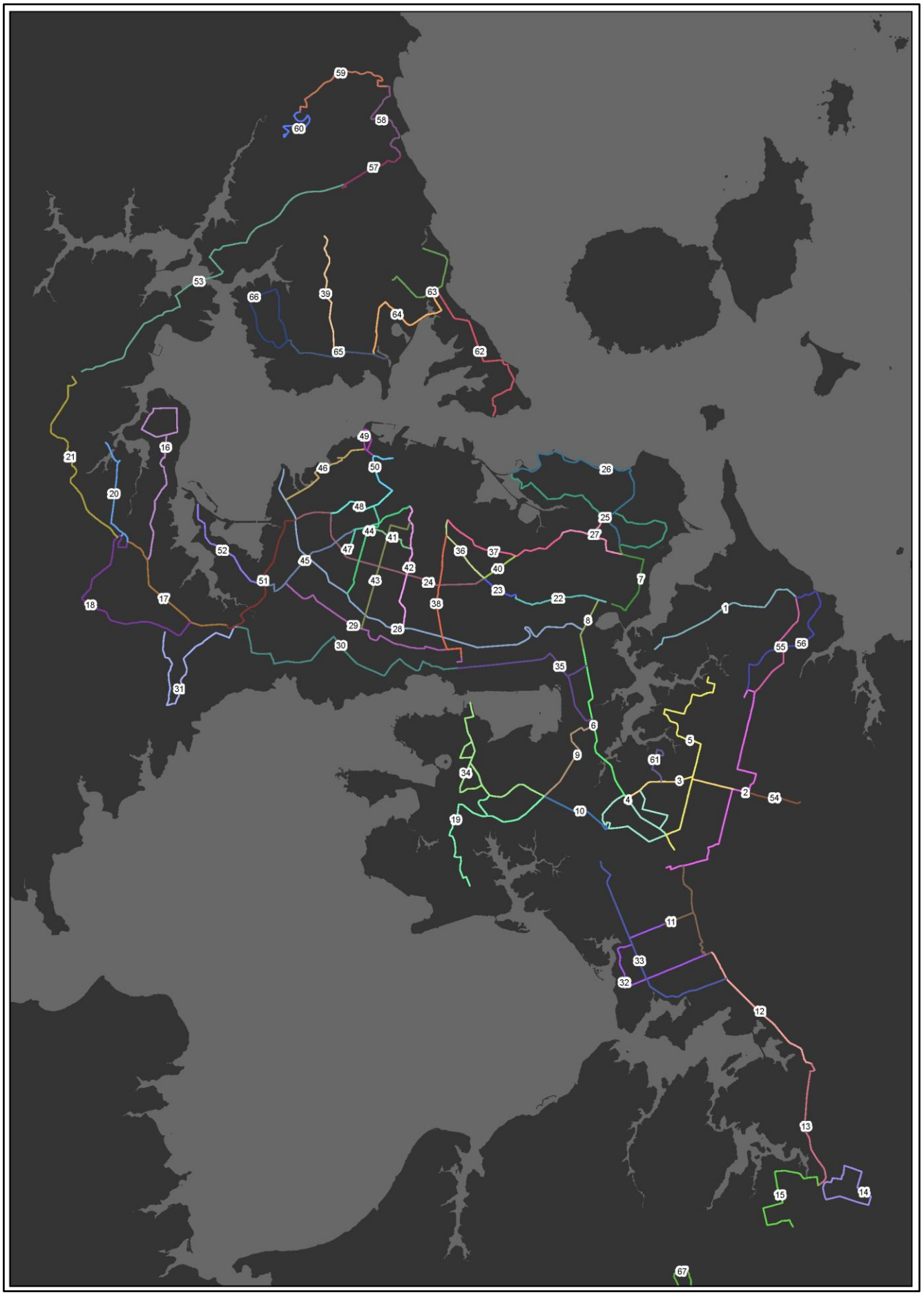


Figure 44. Overall FTN Corridors Reference Map.

7.1.3 Method to intensify along corridors

A range of methods exist in the AUP for enabling greater heights and densities in residential areas (than those currently in the AUP). These are outlined in more detail in **Appendix 7**. In this case, the most appropriate method to implement additional height and density is via rezoning existing residential zoned land along corridors to the Terraced Housing and Apartment Building ('**THAB**') zone (with modified provisions).

Height Variation Controls ('**HVC's**') are also required for some other zones such as the Town, Local, and Neighbourhood Centre zones (refer to section 5.8) and the Mixed Use zone, so their enabled height matches the 22m height of the new THAB adjoining these zones.

7.1.4 Feedback on corridors

While Policy 3(c) and 3(d) intensification has been long signalled since the NPS-UD (2020) and PC78 (2022), significant intensification along corridors has not previously been widely contemplated. Therefore, this section outlines some initial feedback received on this concept.

Auckland Transport

Auckland Council has worked closely with Auckland Transport on the development of the approach to intensify along corridors. The Auckland Regional Public Transport Plan promotes stronger integration between land use and public transport and provides the strategic basis for intensification along corridors.

Auckland Transport endorsed the 2031 Frequent Transit Network (FTN) as the base for corridor selection and acknowledged that not all FTN routes (or sections of routes) would be potentially suitable for upzoning (i.e. a selection process would be required). Auckland Transport supported a Multi-Criteria Analysis process for selecting the corridors for intensification. They also raised issues around potentially requiring further interventions to better support the movement function of the arterial roads (and potentially collector roads).

A memo from Auckland Transport outlining their position and associated input on the corridors work is included in **Appendix 23**.

Local Boards

A draft version of PC120 was presented to Local Boards in August/September 2025. Feedback from the Local Boards on the specific matter of corridors is summarised in Figure 45 below.

Local Board name	Issues raised regarding corridors
Puketāpapa	Concern about 400-metre THAB zones along arterial roads where bus services are already at capacity.
Howick	Oppose the inclusion of the Howick to Botany corridor due to infrastructure constraints, visual impacts, and lack of data. Suggest Te Irirangi Drive as an alternative location for corridor intensification.

Rodney	Request clarity around what modes and frequency of public transport provision qualifies as a 'Frequent Transport Network.
Waitematā	Recommend more bus corridors are upzoned to 4-6 storeys across the isthmus (in lieu of some of the 50m additional height areas).
Albert-Eden	Concern about 400-metre THAB zones along all arterial roads.
Henderson – Massey	support increased intensification along the frequent transit network corridor only with adequate supporting transport infrastructure.
Maungakiekie-Tāmaki	Retain strong local decision-making to identify appropriate corridors. Focus on medium-density housing particularly in areas adjacent to frequent public transport corridors.
Māngere-Ōtāhuhu	Growth in corridors should be matched with infrastructure upgrades.
Whau Local Board	Support more intensive development within 200 metres of either side of the Great North Road corridor.
Ōtara-Papatoetoe	Support the targeted application of density on transport corridors.
Devonport-Takapuna	Support THAB within 200m either side of the road corridors on FTN, except in flood plains.

Figure 45: Summary of Local Board feedback on corridors

Sections 7.2 and 7.3 of this report identify and evaluate the options for intensifying along corridors.

7.2 How to determine which corridors are most suitable for residential intensification?

7.2.1 Overview

This section outlines the options considered to evaluate which of the 69 identified corridors would be most suitable for intensification.

The evaluation covers five options for determining which corridors are most suitable for residential intensification. The preferred approach is **'Option 4' - Intensify along corridors with MCA score of 8+ (Top 26 corridors)**. This option was determined to be the preferred method to deliver required plan enabled capacity, whilst also managing the hierarchy of intensification responses appropriately.

Some of the options considered below use a multi-criteria analysis ('**MCA**') to rank corridors based on their alignment with strategic outcomes. The MCA ranking would inform the order of priority when considering how many corridors may be identified for additional residential intensification through application of the THAB zone and HVCs.

The MCA ranks the corridors by scoring them against five criteria:

- Residential Land Demand
- Access Score
- Centres along Route
- Strategic Connections
- Bus Frequency

These criteria were developed to ensure that the highest-ranked corridors reflect the measures that support a quality compact urban form and are consistent with strategic outcomes of the RPS and NPS-UD. Further information on the development of the MCA, including the criteria used, is provided in **Appendix 18**.

7.2.2 Description of options – Determining which corridors are most suitable for residential intensification

7.2.2.1 Option 1 - Do nothing (No broader application of THAB zoning beyond Policy 3 areas)

This option would not seek to undertake any additional residential intensification zoning along corridors. It would leave the additional plan enabled capacity requirements to other PC120 responses such as the intensification under Policy 3(c) and 3(d) and the residual residential area. The capacity that may have otherwise been met through the intensification of corridors would need to be achieved by upzoning other areas and/or the potential relaxing of zone development controls.

7.2.2.2 Option 2 - All FTN Corridors

This option would apply residential intensification along all of the FTN corridors. No 'segmentation' of the network would be required, as the whole network would be treated consistently.

7.2.2.3 Option 3: Rank corridors against criteria and intensify along the top 11 corridors (MCA score of 11+)

This option uses the MCA to enable ranking of the corridors to prioritise those corridors most suitable for intensification. Further details on the MCA criteria and the scoring are included in **Appendix 18**.

This option would apply intensification to corridors with an overall MCA score of 11 or more. This captures the 11 highest ranked corridors, or approximately one-sixth of the overall list. This option targets intensification to only the highest-performing corridors based on the MCA assessment.

7.2.2.4 Option 4: Rank corridors against criteria and intensify along the top 26 corridors (MCA score of 8+)

This option uses the same MCA as option 3 (see **Appendix 18**) to enable ranking of the corridors to prioritise those corridors most suitable for intensification. This option would apply intensification to all corridors with an overall MCA score of 8 or more, being the 26 highest

ranked corridors, or just over a third of the corridors. This option focusses on those corridors which perform best against the criteria while also including some that perform moderately against the criteria.

7.2.2.5 Option 5: Rank corridors against criteria and intensify along the top 49 corridors (MCA score of 5+)

This option uses the same MCA as option 3 (see **Appendix 18**) to enable ranking of the corridors to prioritise those corridors most suitable for intensification. This option would apply intensification to all corridors with an overall MCA score of 5 or more, being the 49 highest ranked corridors (around two-thirds of the total FTN corridors). This option uses the MCA criteria but provides more capacity through more corridors being identified, than in options 3 and 4. This option includes corridors with more variable performance and may require careful management of zoning extent and implementation.

7.2.3 Evaluation of options – Determining which corridors are most suitable for residential intensification

Figure 48 below evaluates the five options for determining which corridors are most suitable for residential intensification. Overall, the preferred approach is **'Option 4' - Intensify along corridors with MCA score of 8+ (Top 26 corridors)'**.

This option provides the best alignment to the outcomes sought by this intensification response. It significantly contributes to capacity requirements, whilst also managing the hierarchy of intensification responses appropriately. Intensification under this option is concentrated in high-access, high-demand areas as opposed to the widespread application of THAB zoning to all or most corridors. Risks related to corridor characteristics (e.g. vehicle access, amenity) can be managed and are shared across all options.

The outcome of 'Option 4' is the identification of 26 FTN corridors for intensification (those with an overall MCA score of 8 or higher). However, although the following two FTN corridors in Figure 46 ranked in this highest group, land adjacent to these corridors is already upzoned through Policy 3 of the NPS-UD. Therefore, these two corridors had no further intensification options considered under FTN Corridors work:

Map #	Corridor name	Length (km)	FTN Route Name(s)
50	College Hill and Ponsonby Road	2.50	INN
36	Greenlane - Newmarket (GSR)	2.90	70

Figure 46. FTN Corridors - No mapping response (entirely captured by Policy 3 intensification catchments)

Therefore, '**Option 4**' results in 24 FTN corridors for intensification as listed in Figure 47 below.

Map #	Corridor name	Length (km)	FTN Route Name(s)
38	Onehunga - Newmarket (Manukau Rd)	5.49	30
37	St Johns - Remuera - Newmarket	5.28	75
23	Ellerslie - Greenlane	1.52	70
48	Great North Road (Ponsonby to Motat)	3.05	18, 11
47	St Lukes to Great North Rd (via Morningside and Kingsland)	2.79	20
51	Great North Road (Pt Chev, Avondale, New Lynn)	6.04	18,11
22	Panmure - Ellerslie	3.88	70, 72X
44	Sandringham Rd (Newton to Sandringham)	4.74	24
63	Smales Farm – Takapuna – Milford	4.68	82
43	Dominion Road (Mt Eden to Mt Roskill)	5.31	25
42	Mt Eden to Three Kings (Mt Eden Rd)	5.21	27
17	New Lynn to Henderson	5.83	14
24	Greenlane - Western Springs (Via Balmoral)	9.16	65
40	Greenlane East (Remuera Rd to Greenlane)	1.53	65
41	Mt Eden to Sandringham Rd via Valley Rd Shops	2.00	64
45	New North Road (Morningside to Avondale)	4.83	22
64	Northcote – Takapuna	5.93	94
8	Panmure - Mt Wellington - Sylvia Park	2.40	74
2	Botany to Manukau (via Ormiston)	11.13	35
39	Glenfield - Birkenhead	4.96	95
56	Howick to Botany (via Meadowlands, Botany Rd)	6.89	72
6	Papatoetoe - Ōtāhuhu - Sylvia Park	6.44	32
49	St Marys Bay to Ponsonby	2.27	INN
65	Verrans Corner to Onewa Road	4.64	97

Figure 47: FTN Corridors Selected for Mapping (24)

	Option 1 - Do nothing - No broader application of THAB zoning beyond Policy 3 areas	Option 2 - All FTN Corridors	Option 3 – Rank corridors against criteria and intensify along the top 11 corridors (MCA score of 11+)	Option 4 - Rank corridors against criteria and intensify along the top 26 corridors (MCA score of 8+)	Option 5 – Rank corridors against criteria and intensify along the top 49 corridors (MCA score of 5+)
Appropriateness	Not appropriate, this option does not address the purpose of the plan change to better align with RPS, providing plan-enabled capacity around key transport corridors and centres. This option places significant pressures on other levers for intensification which may not be as appropriate.	Less appropriate than options 4 and 5 as the FTN covers large area of region – will result in extended THAB across large areas of the region. This option does not rely on an MCA and therefore limits ability to apply a range of zone responses to manage risk of widespread application of THAB, depending on corridor ranking as might be achieved by options 4 and 5.	Not appropriate, this option provides a relatively small contribution to plan-enabled capacity and does not achieve the scale intended through this intensification mechanism. Maintains pressures on other levers for intensification which may not be as appropriate.	This option is most appropriate, intended to offer a 'balance' of additional plan-enabled capacity without skewing greatest extent of height and density enablement to the corridors – the RPS and NPS-UD direct that centres and rapid transit nodes are to have the greatest height and density enabled.	Appropriate - this option applies upzoning to the majority of corridors but may require management of extent of THAB zone, depending on ranking in MCA to address the risks of widespread THAB application across the region.
Effectiveness	This option does not effectively support capacity requirements – requiring reliance on other intensification levers. Does not effectively address the issue.	This option is effective in addressing the issue of additional capacity across the region, with least amount of staff time spent on analysis (no MCA). However, is not as effective in meeting RPS objectives of quality compact urban form due to the widespread intensification further away from key employment centres.	This option results in little change beyond operative zoning and beyond that proposed under Policy 3. Selecting the highest ranking 11 corridors provides only a logical "filling in" of small gaps between some inner isthmus walkable catchments - does not provide the level of capacity required overall.	This option offers a reasonable contribution to plan enabled capacity along corridors in locations that rank best against MCA criteria. This indicates the option may be the most effective at addressing the issue and objectives.	Potentially an effective option at delivering on plan enabled capacity. However, like option 2, may not be as effective at achieving outcomes of PC120 to prioritise greatest heights and densities in locations of best access and highest demand due to high number of corridors spread across the region.

	Option 1 - Do nothing - No broader application of THAB zoning beyond Policy 3 areas	Option 2 - All FTN Corridors	Option 3 – Rank corridors against criteria and intensify along the top 11 corridors (MCA score of 11+)	Option 4 - Rank corridors against criteria and intensify along the top 26 corridors (MCA score of 8+)	Option 5 – Rank corridors against criteria and intensify along the top 49 corridors (MCA score of 5+)
Efficiency	Does not efficiently address the issue – the costs lead to uncertainty of some of the purpose of PC120 over PC78.	Potentially most efficient option, reduced time spent developing multi-criteria analysis. No need to 'cut' the network or go through an evaluation process for 'sections' of FTN if upzoning was applied across entire frequent bus network.	This is the least efficient option to address the issue, given the extent of time required for the MCA development with a negligible contribution to plan enabled capacity. Some of the highest-ranking corridors already exhibit higher intensity zones along their length, with little opportunity to contribute further to plan-enabled capacity through the intensification corridors as intended.	More efficient than options 3 and 5, facilitating additional plan-enabled capacity, with less time spent on mapping for rezoning as would otherwise be required by options 2 and 5.	Less efficient – this option involves mapping a large number of corridors, which takes more time and staff resources. Because most corridors still need to be assessed individually, this option is more complex and less efficient than more targeted approaches.
Costs	Reliance on other levers for intensification may reduce the extent of lower density residential zones (such as Single House and Mixed Housing Suburban) which could otherwise be facilitated in appropriate areas through other options. Significant risk of not meeting the capacity requirements required to be achieved to enable PC120 (risk of defaulting back to PC78 if this requirement is not met. Wider costs of PC78 are	Widespread effects of intensification across region, significant change to neighbourhoods beyond Policy 3 areas. Not all FTN routes (or sections of routes) are suitable for upzoning indicating a selection process to be more suitable. High staff resourcing and time cost required to refine zone boundary along all corridors.	May require greater plan-enabled capacity to be achieved through other means – those highest-ranking corridors include a large extent of higher intensity zoning along their length, with little opportunity to contribute to plan-enabled capacity through the intensification corridors as intended. Excludes moderately performing corridors that could still support intensification.	Additional corridors (further to those in option 3) are generally located in inner isthmus suburbs which rank highest in urban access scores, land demand and frequency. Many of these areas have not been subject to zone changes as experienced by other suburbs due to prevalence of lower density residential zones in the operative plan. High staff resourcing and time cost required to refine zone boundary along all	Widespread effects of intensification across region, significant change to neighbourhoods beyond policy 3 areas. Greatest residential character and amenity effects will be experienced by suburbs which have higher proportions of Single House zone in the operative plan. High staff resourcing and time cost required to refine zone boundary along all corridors.

	Option 1 - Do nothing - No broader application of THAB zoning beyond Policy 3 areas	Option 2 - All FTN Corridors	Option 3 – Rank corridors against criteria and intensify along the top 11 corridors (MCA score of 11+)	Option 4 - Rank corridors against criteria and intensify along the top 26 corridors (MCA score of 8+)	Option 5 – Rank corridors against criteria and intensify along the top 49 corridors (MCA score of 5+)
	addressed in overall section 32 Report).		Time and resourcing spent on MCA development	corridors (but less than options 2 and 5). Time and resourcing spent on MCA development	Time and resourcing spent on MCA development.
Benefits	May result in less significant zoning changes in neighbourhoods which would otherwise be subject to greater intensification under options 1, 2 and 4.	Greatest contribution to capacity of the five options, which may in turn reduce extent of wider residential intensification (via the Mixed Housing Urban zone) across the region required to meet capacity.	Limits the significance of zone change along FTN corridors compared to options 2, 4 and 5. Ensures the corridors which perform best against most criteria (access, demand and PT frequency) are upzoned. Focuses growth in areas with the strongest alignment to MCA criteria.	Captures all top-ranking corridors which may have little opportunity for upzoning as well as those corridors which performed well against criteria but may have a high yield of rezoning potential. Enables integration of land use and transport infrastructure – facilitating additional capacity along existing and planned frequent transit routes of priority.	High contribution to plan enabled capacity (similar to option 2) which may in turn reduce extent of wider residential intensification (via the Mixed Housing Urban zone) across the region required to meet capacity.

	Option 1 - Do nothing - No broader application of THAB zoning beyond Policy 3 areas	Option 2 - All FTN Corridors	Option 3 – Rank corridors against criteria and intensify along the top 11 corridors (MCA score of 11+)	Option 4 - Rank corridors against criteria and intensify along the top 26 corridors (MCA score of 8+)	Option 5 – Rank corridors against criteria and intensify along the top 49 corridors (MCA score of 5+)
Risks	Places pressure on other levers to achieve capacity requirements. i.e. larger walkable catchments with a greater height enablement; may require intensification around neighbourhood centres, known to be widespread across the region and do not align with frequent transit network. Significant risk of diverging from the urban growth and form objectives and policies of the Regional Policy Statement.	Risks of unintended outcomes increased due to varying characteristics of corridors across the region. Risk that THAB zoning may be applied in areas with insufficient residential land demand, leading to a mismatch between planned intensification and feasible development outcomes. Inclusion of corridors which are not identified as arterial roads on AUP maps may not have same level of control over vehicle access compared to arterial roads. Intensification alongside entire FTN network could risk compromising effectiveness of the corridor for movement (new vehicle accesses may compromise planned corridor improvements). Potential for poor amenity for development adjacent to corridors – e.g., noise, air quality	Similar to option 1, unlikely to provide the level of plan-enabled capacity intended by this intensification mechanism. If the number of corridors selected for mapping are significantly limited and cannot support the required capacity outcomes, a more intensive zone response (e.g., 10 storeys) may be required of these select corridors (risks consistency with RPS urban growth and form objectives and hierarchy of centres). Inclusion of corridors which are not identified as arterial roads on AUP maps may not have same level of control over vehicle access compared to arterial roads. Intensification alongside entire FTN network could risk compromising effectiveness of the corridor for movement (new vehicle accesses may compromise planned corridor improvements). Potential for poor amenity for development adjacent to	While a preliminary review of upzoning potential indicates this option would capture corridors of both minimal and significant upzoning potential – there is a risk that qualifying matters may reduce the 'balance' of capacity enablement this mechanism is intended to achieve. Further capacity modelling is required to mitigate this risk. Inclusion of corridors which are not identified as arterial roads on AUP maps may not have same level of control over vehicle access compared to arterial roads. Intensification alongside entire FTN network could risk compromising effectiveness of the corridor for movement (new vehicle accesses may compromise planned corridor improvements). Potential for poor amenity for development adjacent to corridors – e.g., noise, air quality	Includes corridors which may have ranked lowest against some of the criteria – indicating weaker alignment with strategic outcomes. Similar risks to option 2 – with widespread enablement of THAB across the region, beyond centres. Inclusion of corridors which are not identified as arterial roads on AUP maps may not have same level of control over vehicle access compared to arterial roads. Intensification alongside entire FTN network could risk compromising effectiveness of the corridor for movement (new vehicle accesses may compromise planned corridor improvements). Potential for poor amenity for development adjacent to corridors – e.g., noise, air quality

	Option 1 - Do nothing - No broader application of THAB zoning beyond Policy 3 areas	Option 2 - All FTN Corridors	Option 3 – Rank corridors against criteria and intensify along the top 11 corridors (MCA score of 11+)	Option 4 - Rank corridors against criteria and intensify along the top 26 corridors (MCA score of 8+)	Option 5 – Rank corridors against criteria and intensify along the top 49 corridors (MCA score of 5+)
			corridors – e.g., noise, air quality		

Figure 48. Evaluation of options to determine which FTN corridors are most suitable for residential intensification

7.3 How wide should residential intensification apply along a corridor?

7.3.1 Overview

This section evaluates how enabling additional residential capacity through application of the THAB zone could be applied along the selected corridors. The overall aim to support meeting the government directed capacity requirements is relevant to evaluating options in this section.

The evaluation considers four options that explore different widths and approaches for applying intensification to the selected corridors. **'Option 2 (applying the THAB zone at an approximate 200m buffer from the corridor)'** is identified as the preferred approach. It offers an appropriate method for delivering additional intensification within the limitations for preparing PC120.

A range of methods exist in the AUP for enabling greater heights and densities in residential areas as outlined in **Appendix 7**. As discussed earlier in this report, the most appropriate tool to implement additional height and density along the corridors is via rezoning existing residential zoned land (Single House, Mixed Housing Suburban, Mixed Housing Urban) along corridors to the THAB zone (22m) and the use of HVCs (22m) in other appropriate zones.

The application of the THAB zone and HVCs take into account any planning constraints which make the application of the THAB zone or the HVC inappropriate. Planning constraints which limit the density and/or height response along a corridor include (but are not limited to):

- Properties identified for downzoning due to presence of significant flood or coastal hazard risk.
- High or Moderate Aircraft Noise Area Overlay.
- National Grid Corridor Overlay.
- Height Sensitive Areas Overlay.
- Retained Special Character Area .
- Significant Ecological Area Overlay.

This is not a comprehensive list of all planning constraints.

There may also be other rules contained within precincts, overlays or other Auckland-wide provisions which modify or limit full realisation of the otherwise intended THAB zone (and/or HVC) along corridor routes.

7.3.2 Description of options – How wide should residential intensification apply along a corridor?

7.3.2.1 Option 1 – Apply THAB zone to immediately adjacent parcels (50-100m corridor)

This option applies a depth of approximately 50m to the FTN corridor GIS shapefile (which generally follows the road centrelines) to identify properties for intensification. This option focuses on applying the THAB zone to those properties 'immediately adjacent' to the road corridor and some rear properties which have direct access to the corridor.

7.3.2.2 Option 2: Apply THAB zone at an approximate 200m buffer (approximately one block) away from corridor

This option applies a spatial buffer of 200m to the FTN corridor GIS shapefile (which generally follows the road centrelines) to identify properties for intensification. This option is not a walkability analysis, but rather a spatial buffer to guide application of zoning in a linear manner. This approach generally identifies properties within one-block of the FTN corridor.

7.3.2.3 Option 3: Apply THAB zone within a 200m or 400m catchment around existing bus stops along corridor

This option applies spatial buffer of 200m or 400m around existing bus stops along the route. This takes a nodal approach to intensification around existing bus stops as opposed to a linear form of intensification along the entirety of the selected FTN corridor.

7.3.2.4 Option 4: Apply a walkability analysis to all corridors selected

This option would utilise a mixture of GIS analysis and ground truthing to establish a catchment distance from the road corridor 'as walked'. This could account for various physical barriers, topography and other characteristics which may affect walkability. This would be a similar approach to that outlined earlier in this report for the Policy 3(c) walkable catchments (although the distance would be around a 5 minute walk/400m – less than the 10 minute/800m applied to rapid transit stops and metropolitan centres).

7.3.3 Evaluation of options – How wide should residential intensification apply along a corridor?

Figure 49 below evaluates the four options to determine how wide residential intensification should apply along the selected corridors.

'Option 2 (applying the THAB zone at an approximate 200m buffer from the corridor)' is identified as the preferred approach. It is considered the most appropriate, effective, and efficient method to support plan enabled capacity adjacent to the frequent transit network. This option enables a logical corridor of upzoning, is relatively simple to implement, and achieves the objectives of PC120 and gives effect to the RPS. There is risk that in areas where the corridor is less walkable, residents may be less likely to use public or active transport, reducing the effectiveness of the intensification strategy. The depth of rezoning proposed provides opportunity for medium-higher intensity residential activity to be realised while being a proportionate response to the type and frequency of the public transport available, and the significance of the corridor.

Option 4 (applying a walkability analysis to all selected corridors) is also recognised as an appropriate alternative. It offers a more refined and responsive approach to identifying walkable catchments and supports integration with public transport. However, due to its complexity to implement (relative to Option 2), it is less practical within the current timeframe constraints for preparing this plan change.

Overall, the preferred approach is ‘Option 2’ applying the THAB zone at an approximate 200m buffer (approximately one block deep) from the corridor. However, it is recognised that option 4 is likely also an appropriate option.

This land along the selected corridors is identified in the proposed plan change maps through a spatially demarcated layer called ‘Frequent Transit Corridor Zoning’. This layer is for reference only and is not proposed to form part of the operative AUP planning maps. This layer appears only outside of Policy 3(c) and 3(d) areas. The total area of land within the corridors is over 1,000ha (with around 750ha of this zoned THAB under PC120).

	Option 1 – THAB Zone applied to immediately adjacent parcels (50-100m corridor)	Option 2 – THAB Zone applied at an approximate 200m buffer to one block away from corridor.	Option 3 – Apply THAB zone to catchment around existing bus stops along corridor (nodal approach)	Option 4 – Apply a walkability analysis to all corridors selected.
Appropriateness	Not as appropriate as other options. Immediately adjacent properties are already THAB or Mixed Use zone along some of the top-ranking corridors. Limits the additional contribution to plan enabled capacity from corridors potentially resulting in a wider extent of residential intensification (via the Mixed Housing Urban zone) across the region to meet capacity.	Most appropriate option - facilitates wider corridor of upzoning adjacent to the FTN network. Presents a more efficient use of land, better supporting the capacity requirements for PC120. Relatively simple to implement when compared to a full walkability analysis (option 4) or nodal approach (option 3)	Not as appropriate – this option may not achieve the same capacity outcomes as options 2 or 4. It is less efficient, requiring more complicated GIS analysis for each bus stop catchment Treats bus stops as 'fixed' assets, noting stops along an FTN route may be upgraded, or relocated according to service improvements. Does not align with the concept of intensification *along* corridors (as opposed to around stations or stops in Policy 3(c)).	Appropriate, this option (like option 2) facilitates a wider corridor of upzoning adjacent to the FTN network Presents a more efficient use of land, better supporting the capacity requirements for PC120. Full walkability analysis is more resource intensive and inappropriate in the limited time to prepare and notify PC120.
Effectiveness	Ineffective at delivering capacity outcomes sought from this intensification response. Only offers a narrow area for intensification, missing the opportunity to facilitate additional residential growth adjacent to areas of high access.	Most effective at achieving outcomes for intensification, through the most efficient means. The 200m 'straight line' distance is often significantly more than this in actual walking distance (e.g. 300-400m). This varying walking distance is comparable to a 400m 'as walked' distance used for a Town Centre under Policy 3(d). A Town Centre is likely to have more attractors than that part of a corridor (that may not be a bus stop and may not have any commercial activity). It is considered that regional connectivity offered by FTN would typically justify a	Less effective – while this option prioritises access to individual bus stops, it is unlikely to achieve the same yield of upzoning as option 2. Requires more complex GIS analysis and mapping review. Assumes the bus stop location is a "fixed" asset. This assumption does not align with service improvement programmes seeking to optimise PT service frequency.	Effective at determining appropriate catchment for upzoning within a walkable distance, better accounting for barriers or other restrictions which may affect access to the public transport network. Supports integration with public transport however is significantly resource intensive, and this granular level of assessment results in more complex zone boundaries.

	Option 1 – THAB Zone applied to immediately adjacent parcels (50-100m corridor)	Option 2 – THAB Zone applied at an approximate 200m buffer to one block away from corridor.	Option 3 – Apply THAB zone to catchment around existing bus stops along corridor (nodal approach)	Option 4 – Apply a walkability analysis to all corridors selected.
		wider 'walking catchment' than 200m (which this option does as outlined above).		
Efficiency	Least efficient, while this method requires less intensive GIS mapping work, and therefore can be efficiently implemented with least resources it is unlikely to address the issue of capacity enablement.	Most efficient option – this option supports the height and density of intensification relative to the FTN corridor and is relatively simple to map and implement.	This option is less efficient, may leave irrational gaps between the edges of bus stop catchments, and require a higher level of GIS analysis and post-mapping review due to the catchment-based perimeter being more complicated than a linear form of zoning.	This option requires high level of GIS analysis, including post-mapping review to check zone edges/interfaces (but likely less analysis than option 3).
Costs	Narrower application of more enabling residential zone limits opportunities for site amalgamation compared to a whole block/wider approach. Limited ability to contribute to plan enabled capacity.	More significant application of higher intensity zone, leading to a more significant departure from existing zone patterns in some areas. Effects on existing residential character and amenity - most significant for areas which are currently Single House or Mixed Housing Suburban zone. Relatively low GIS analysis required to be spent in reviewing zone edges/interface.	More zone interface issues where nodal catchments do not overlap, leaving slithers of lower intensity residential zoned properties between nodal catchments. This approach 'fixes' the bus stop location relative to the catchment identified, affecting the ease in which a bus stop location may be reviewed to support more efficient frequencies along the route. Does not recognise mixed uses and other amenities which may exist along a corridor.	Significant resourcing and time required for full walkability analysis. May not be as flexible to design responses which might improve access (i.e., development on amalgamated sites providing new direct access to corridor). More significant application of higher-intensity zone, leading to a more significant departure from existing zone patterns in some areas.
Benefits	Simple to implement - full walkability analysis not required as only those immediately adjacent properties rezoned as THAB.	Wider application of THAB zone to corridors which rank highest, will support more Aucklanders to live closer to frequent transit routes and in locations with	Prioritises access to existing bus stops – providing the best level of access to the frequent bus network in the short term.	More reliable method to determine a catchment "as walked" as opposed to application of a buffer to the corridor length (as proposed by options 1 and 2).

	Option 1 – THAB Zone applied to immediately adjacent parcels (50-100m corridor)	Option 2 – THAB Zone applied at an approximate 200m buffer to one block away from corridor.	Option 3 – Apply THAB zone to catchment around existing bus stops along corridor (nodal approach)	Option 4 – Apply a walkability analysis to all corridors selected.
		better access to jobs, schools and amenities. Relatively simple to implement and creates a logical area along the corridor for intensification.		Intensification based on actual walking distances (rather than 'as the crow flies') is likely to more accurately support public transport uptake - a key driver for this form of intensification. Potential to enable more upzoning than options 1 and 3.
Risks	High risk of not meeting capacity requirements, requiring re-mapping and potential expansion of selected corridors. Limits the additional contribution to plan enabled capacity from corridors potentially resulting in a wider extent of residential intensification (via the Mixed Housing Urban zone) across the region to meet capacity.	Not as accurate as a full walkability analysis. Where the route is less walkable, people may be less likely to utilise public or active modes of transport – undermining the aim of enabling intensification in these locations. Successful implementation may depend on suitable active mode infrastructure (e.g., footpaths, crossings) to ensure access to the corridor is safe and practical. The 'as walked' distance is variable where this set distance (200m) "buffer" approach is applied. Could be mistakenly conflated with a 'walkable catchment' by the public.	Risk of not capturing properties which may otherwise have good access to amenities along the corridor. Successful implementation may depend on suitable active mode infrastructure (e.g., footpaths, crossings) to ensure access to the corridor is safe and practical. Risks being conflated with the Policy 3(c) walkable catchments around RTN stops.	This granular level of assessment may result in complex zone boundaries. Successful implementation may depend on suitable active mode infrastructure (e.g., footpaths, crossings) to ensure access to the corridor is safe and practical. Risks being conflated with the Policy 3(c) walkable catchments around RTN stops.

Figure 49: Evaluation of options - How wide should residential intensification apply along a corridor?

8 Other residential intensification: Residual residential area – Development and evaluation of options

8.1 Residual residential areas: Overview

8.1.1 Where are the "residual residential areas" of Auckland?

Residential intensification along corridors (outlined in Section 7 of this report) forms a part of the "other residential intensification" applying to residential land beyond locations specified by Policy 3 of the NPS-UD. Outside the corridors and Policy 3 locations lies the largest spatial area of residential zoned land in Auckland – the "residual" residential areas of Auckland.

The "residual" residential areas of Auckland for PC120 cover all land zoned Single House, Mixed Housing Suburban, and Mixed Housing Urban[144] in the Auckland region except:

- Land within walkable catchments – Policy 3(c)
- Land in intensification areas adjacent to town and local centres – Policy 3(d)
- Land upzoned within a 'corridor' – as outlined elsewhere in this section
- Land in any rural town or village (note: Warkworth, Pukekohe, and Waiuku are included)
- Land outside the council's intended urban environment, meaning the 23 small settlements with a population of less than 5000 usually resident population as at 2018 Census

The residual residential areas of Auckland are by far the largest area covered by PC120 for its intensification purpose.

Intensification of Auckland's residual residential areas forms part of providing a plan enabled capacity of 2 million dwellings (as compared to the 900,000 in the AUP). While the walkable catchments, adjacent intensification to smaller centres, and intensification along corridors all introduce new residential intensification relative to the AUP, further capacity beyond these measures is required to meet the RMA directed housing capacity for the AUP.

This section outlines the proposed response in PC120 to residential land outside of Policy 3 areas and corridors.

8.1.2 Current AUP zonings applying to the "residual residential areas of Auckland"?

The current zonings of Auckland's residual residential areas are a mix of the following zones:

- Single House
- Mixed Housing Suburban
- Mixed Housing Urban

Areas of existing Large Lot or THAB in the wider residential area were not part of any intensification response in the residual residential areas.[145] The intensification options for the

[144] Note that the Residential - Large Lot zone and the Residential – Rural and Coastal Settlement zone are not included in the residual residential area. No land in the Hauraki Gul Islands is included either.
[145] Note that these zones in the residual residential area may be subject to other planning constraints such as hazards, SEAs etc that may impact on their zoning.

residual residential area focussed on only of three zones – Single House, Mixed Housing Suburban, and Mixed Housing Urban. Large Lot Zone is limited to the walkable catchment for the Swanson RTN station, otherwise that zone is not relevant to intensification options.

The Mixed Housing Suburban zone is currently the predominant residential zoning in the AUP. It is the most widespread residential zone covering many established suburbs and some greenfields areas.[146]

The Single House zone is currently applied in the AUP where one (or more) of the following applies:[147]

- amenity values of a neighbourhood based on special character informed by the past
- established neighbourhood character (spacious sites with some large trees etc)
- a coastal setting
- in greenfield developments to provide housing choice for future residents
- areas not close to centres and public transport
- areas subject to high environmental constraints (e.g. where there are scheduled natural and physical resources)
- areas subject natural hazard risk

The Mixed Housing Urban zone is currently applied in the AUP where sites are within moderate walking distance to centres, public transport, social facilities and open space.[148]

The principal difference between the Mixed Housing Suburban and Mixed Housing Urban zones is the permitted height standard.

The following figures show the current AUP zonings for different areas around Auckland that are covered by the 'residual residential area'.

[146] Refer to Chapter H4 of the AUP.
[147] Refer to Chapter B2 and H3 of the AUP.
[148] Refer to Chapter B2 of the AUP.

Figure 50 of the North Shore area shows that the majority of the residential area is zoned Mixed Housing Suburban. The Single House zone is applied where there are areas of special character (e.g. Devonport), established neighbourhood character (e.g. Chatswood), more remote suburbs (e.g. Greenhithe), in vegetated gully areas (e.g. Birkdale), and along the majority of the coastal edge.

The Mixed Housing Urban zone is applied around many town and local centres (e.g. Beach Haven, Milford) and along some key arterial corridors (e.g. Glenfield Road, East Coast Road).

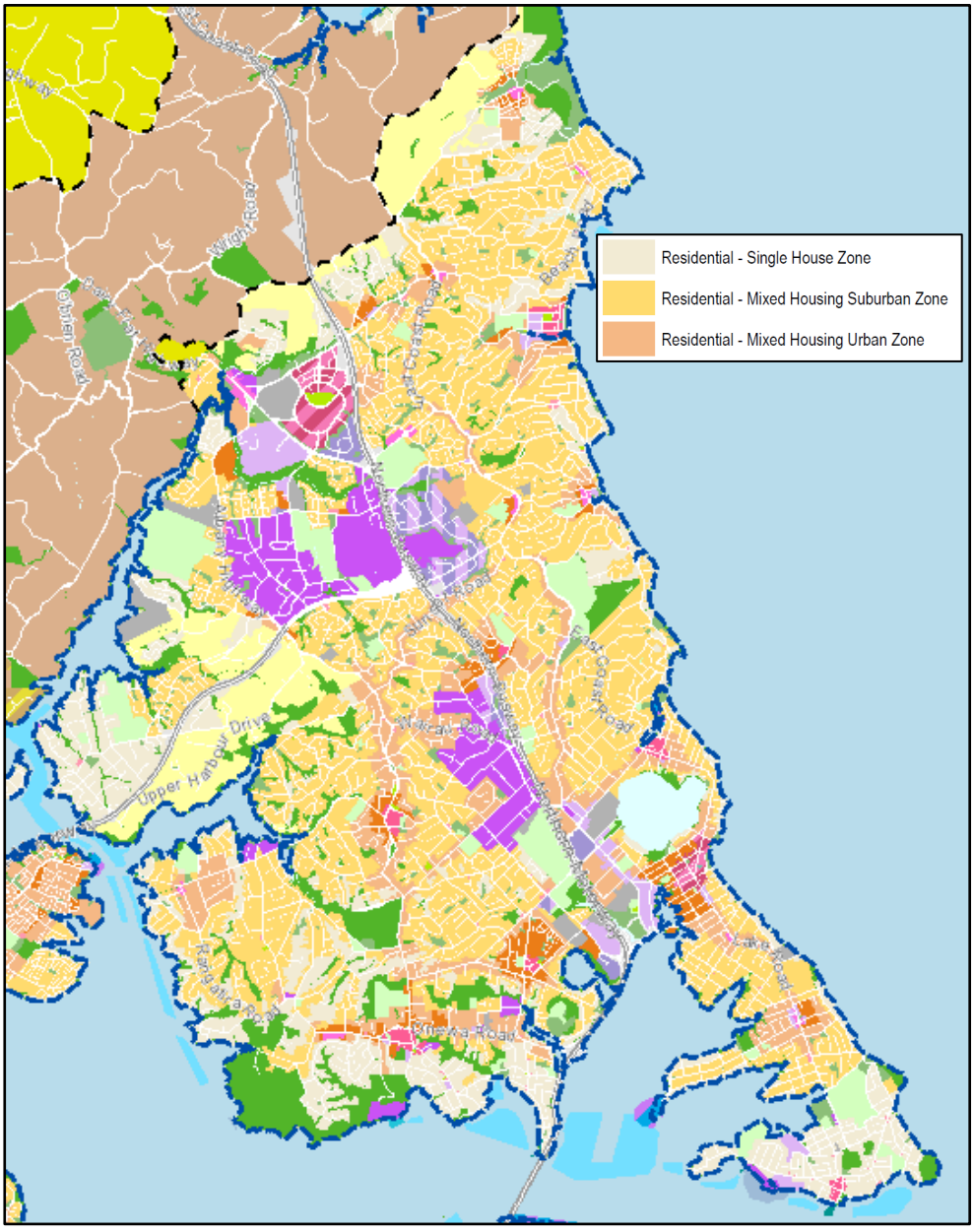


Figure 50: Current AUP zonings of the North Shore area

Figure 51 of the West Auckland area shows that the majority of the residential area is zoned Mixed Housing Urban. The Mixed Housing Suburban zone is applied around more coastal areas (e.g. West Harbour, edge of Te Atatū Peninsula). The Single House zone is applied in more remote suburbs (e.g. Glen Eden, Western Heights) and along some coastal edges (e.g. Massey East).

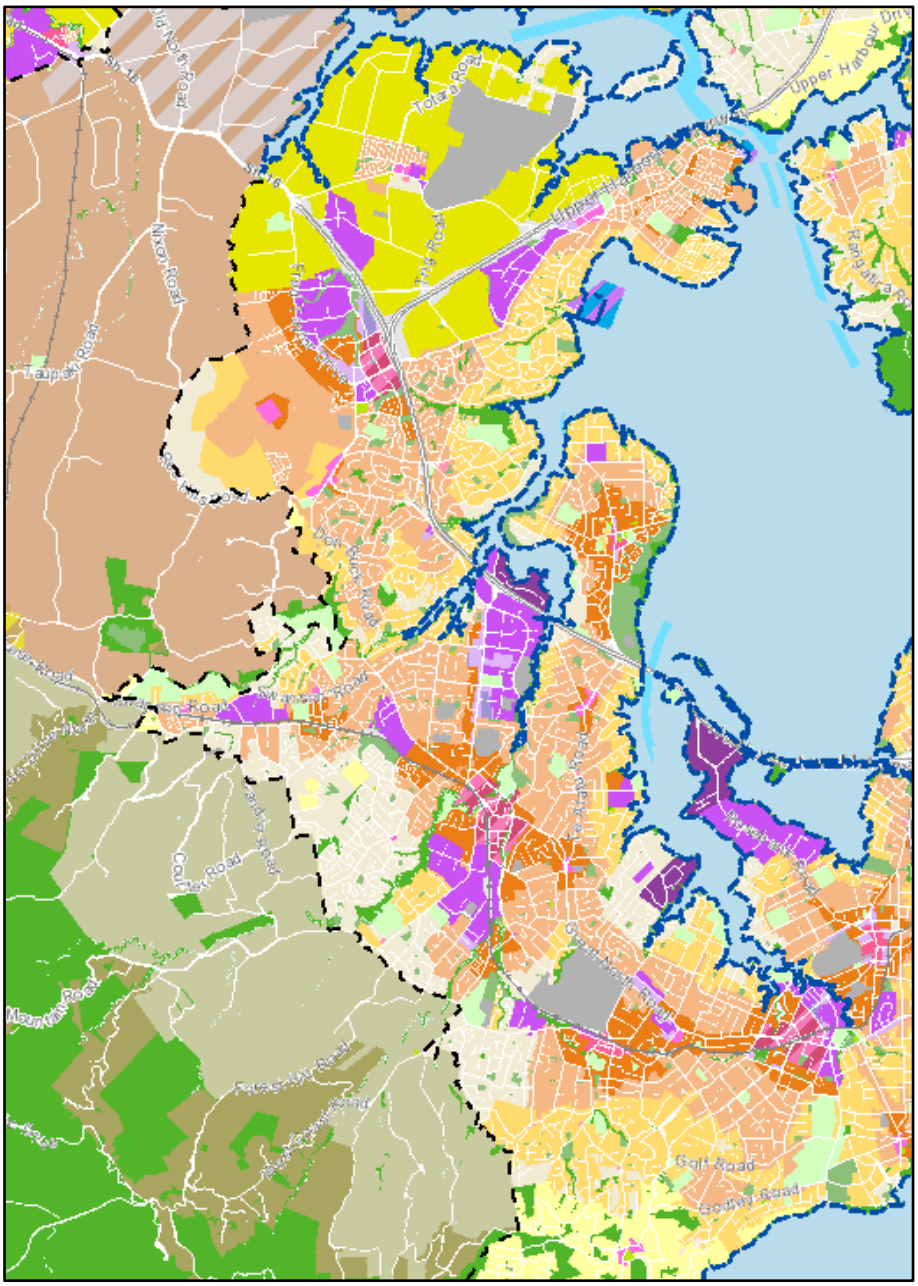


Figure 51. Current AUP zonings of the West Auckland area

Figure 52 of the central isthmus area shows that the majority of the residential area is zoned Mixed Housing Suburban. The Single House zone is applied where there are areas of special character (e.g. Ponsonby, Kingsland) and along some of the coastal edge (e.g. Glendowie, Blockhouse Bay). The Mixed Housing Urban zone is applied on the outskirts of centres (e.g. Onehunga) and along main roads (e.g. St Helliers Bay Road, Mt Albert Road).

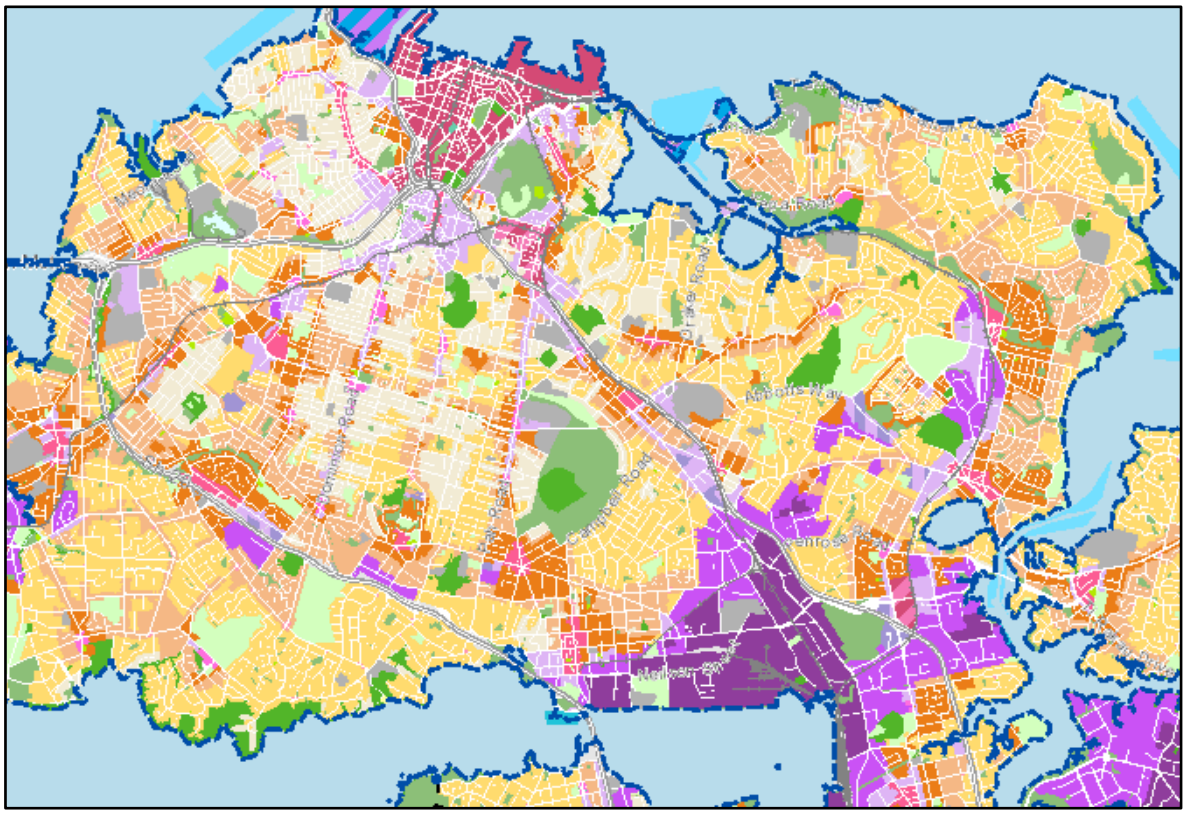


Figure 52: Current AUP zonings of the central isthmus area

Figure 53 of the East Auckland area shows that the majority of the residential area is zoned Mixed Housing Suburban. The Single House zone is applied in more remote suburbs (e.g. Howick, Cockle Bay). The Mixed Housing Urban zone is applied on the outskirts of centres (e.g. Botany, Pakūranga) and along key corridors (e.g. Chapel Road, Pakūranga Road).

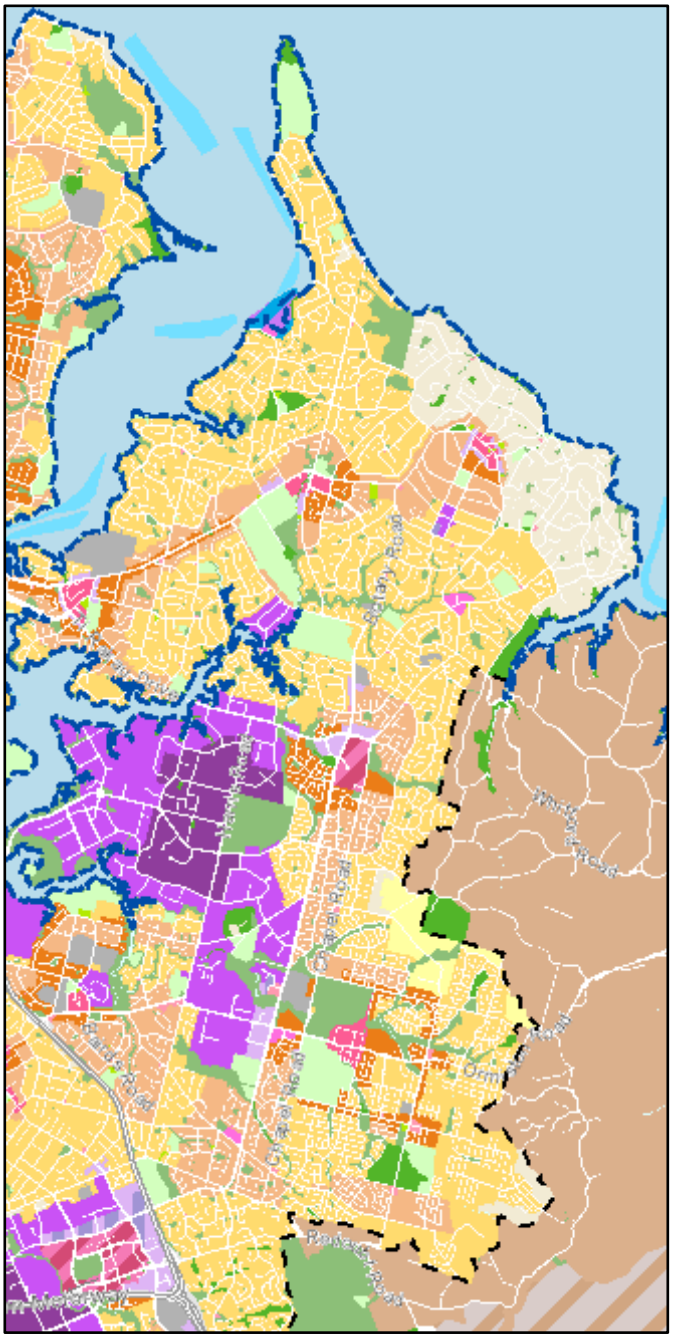


Figure 53: Current AUP zonings of the East Auckland area

Figure 54 of the South Auckland area shows that the majority of the residential area is zoned Mixed Housing Suburban. The Single House zone is applied in areas of special character (e.g. Hill Park) and in some areas adjacent to industrial land (e.g. Mangere East). The Mixed Housing Urban zone is applied on the outskirts of centres (e.g. Papatoetoe, Papakura, Clendon).

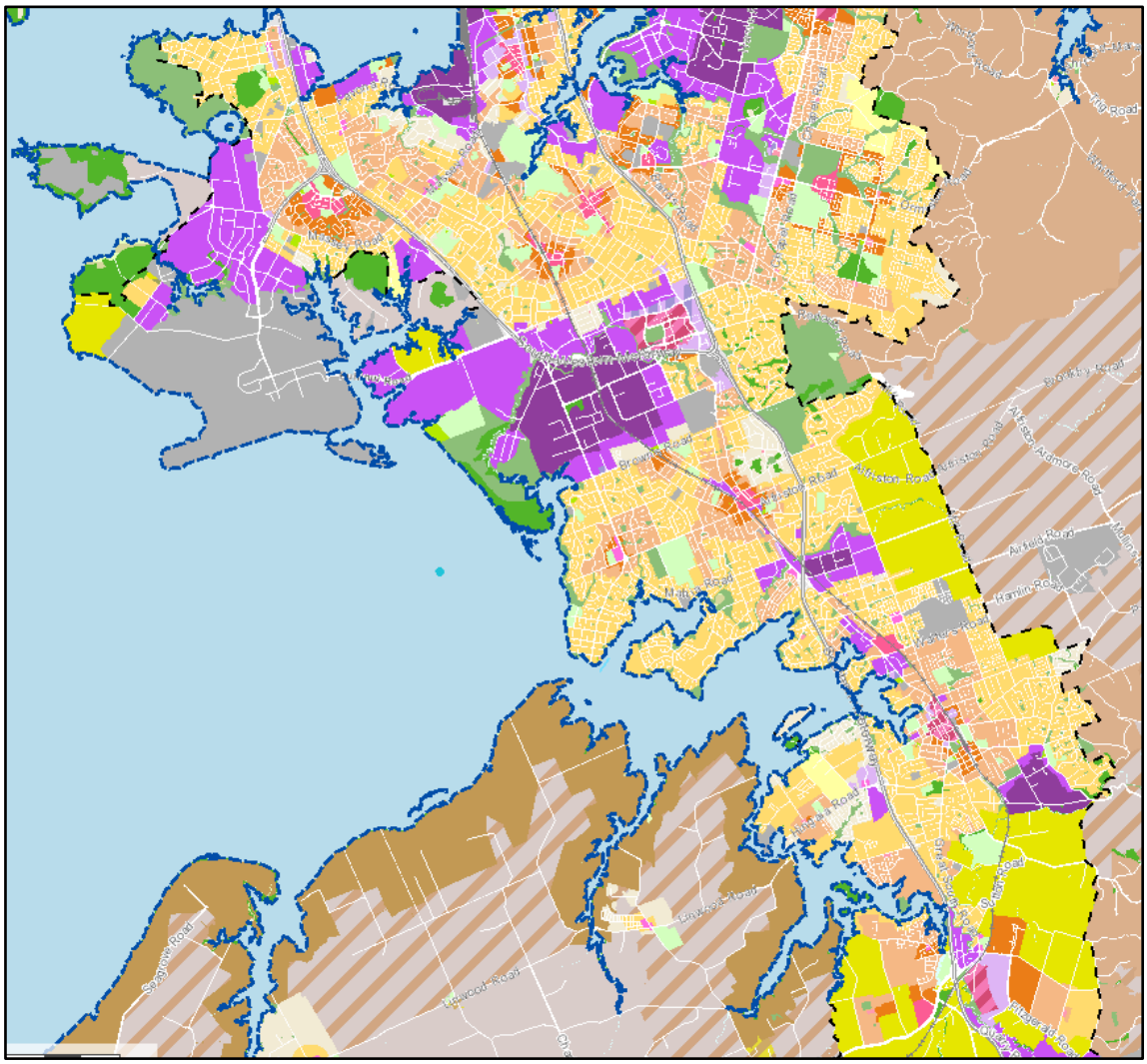


Figure 54. Current AUP zonings of the South Auckland area

Figure 55 of the Hibiscus Coast area shows that the majority of the residential area is zoned Single House. The Mixed Housing Suburban zone is applied in the newer greenfield developments (e.g. Milldale, Red Beach). The Mixed Housing Urban zone is applied around some centres (e.g. Orewa, Red Beach) and in the newer greenfield developments (e.g. Milldale, Silverdale).

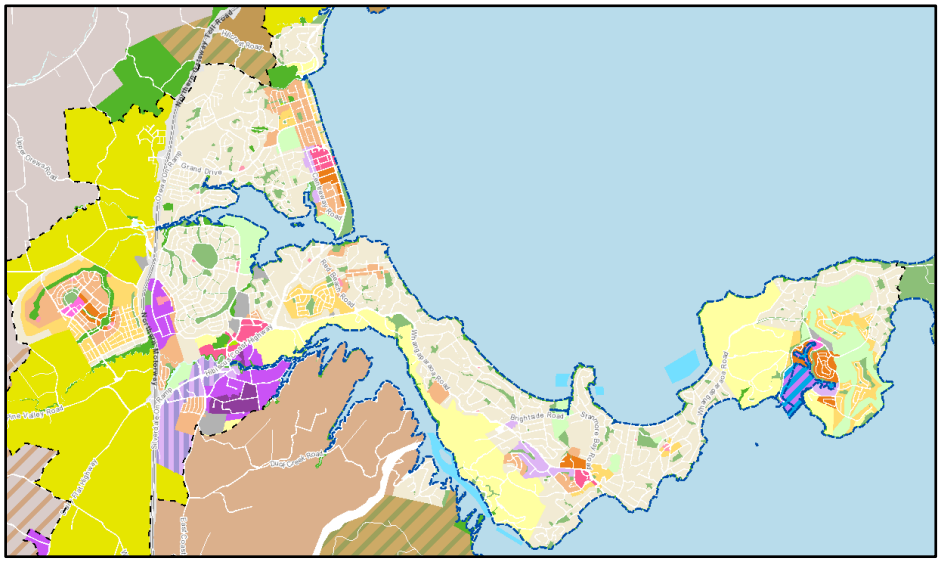


Figure 55: Current AUP zonings of the Hibiscus Coast area

Figure 56 of Pukekohe and Waiuku shows that the majority of the residential area is zoned Mixed Housing Suburban. In Pukekohe, the Single House zone is applied in areas in the south (e.g. Pukekohe Hill, Buckland). The Mixed Housing Urban zone is applied adjacent to the Waiuku centre and in the newer greenfield developments in the east of Pukekohe.

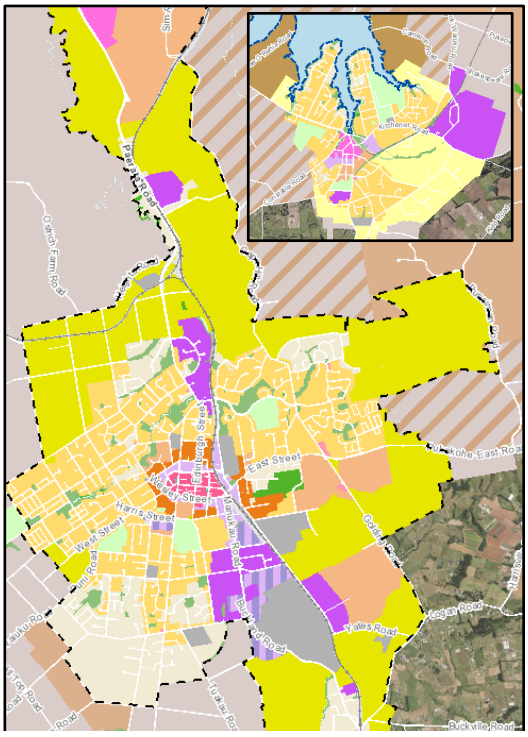


Figure 56. Current AUP zonings of Pukekohe and Waiuku

Figure 57 of Warkworth shows that the majority of the existing residential area is zoned Single House. The Mixed Housing Suburban and Urban zones are applied in greenfield developments to the north, west, and south of Warkworth.

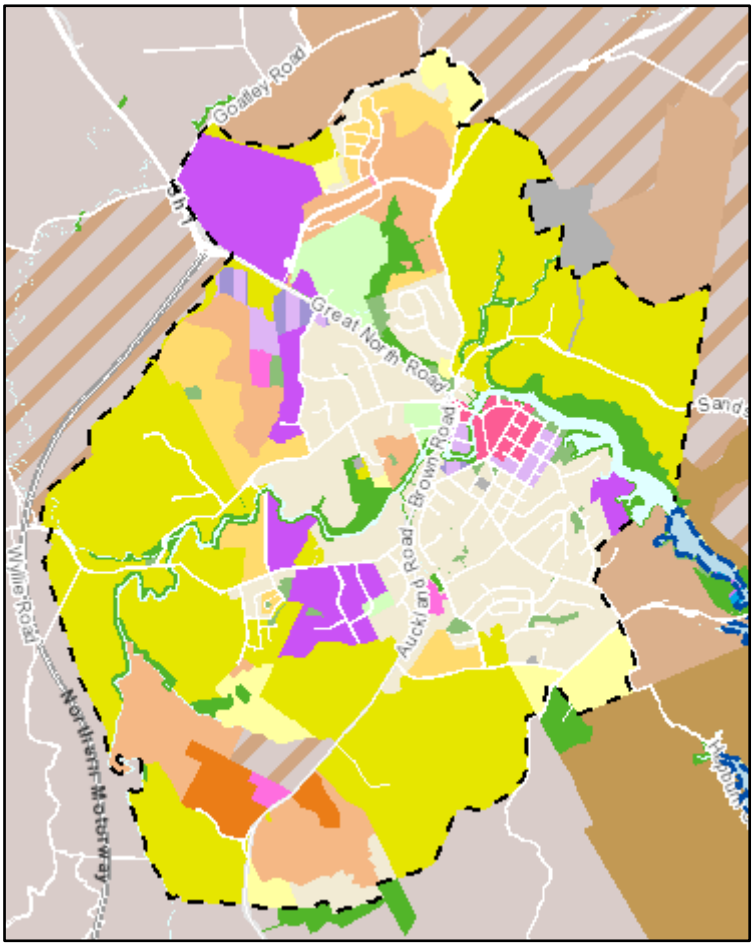


Figure 57. Current AUP zonings of Warkworth

8.1.3 PC120 zoning for the residual residential areas of Auckland

As outlined above, further capacity is required beyond the Policy 3(c), Policy 3(d), and corridor areas for the AUP to be amended to achieve the required plan enabled capacity set by the government. Section 8.2 of this report identifies the options for rezoning Auckland residual residential areas to meet this capacity.

8.2 What zonings should apply across the residual residential area?

8.2.1 Overview

This evaluation has considered four options for determining what zonings should apply across the residual residential area. The preferred approach is 'Option 3: Apply Mixed Housing Urban and Suburban zones depending on accessibility', determined to adequately contribute to the capacity requirement under Clause 4(1)(a) in locations with relative accessibility to centres, employment amenities and public transport.

Many residential neighbourhoods in Auckland fall outside the locations for which Policy 3(c) and Policy 3(d) NPS-UD direct intensification. Many of these residential properties are also beyond the locations for which residential intensification is proposed along identified frequent transport network corridors, and are unaffected by proposed qualifying matters for which a zonal response is proposed in PC120. After accounting for residentially zoned land already evaluated above, due to inclusion in precincts, and land with operative THAB or Mixed Housing Urban zoning, there remains residual residential areas.

The zoning of Auckland's residual residential areas is being reviewed for potential intensification. Consequential on the council's decision to withdraw PC78 (in part) the RMA requires that the AUP be amended to provide housing capacity of approximately 2 million dwellings (as compared to the 900,000 in the operative AUP pre-PC78). While the walkable catchments, adjacent intensification to smaller centres, and intensification along corridors all introduce significant new residential intensification, further capacity beyond these measures is required to meet the directed housing capacity.

Residential intensification can contribute to a well-functioning urban environment and complements the AUP's quality compact urban form approach. The RPS promotes a hierarchy of residential intensity determined by proximity to centres, amenities and public transport. Relevant to the frequent transport network corridor approach and the residual residential land (Objective B2.4.1(3)) provides:

> *Land within and adjacent to centres and corridors or in close proximity to public transport and social facilities (including open space) or employment opportunities is the primary focus for residential intensification.*

Zoning residential land in response to (lack of) proximity to centres, public transport and amenities implements Policies B2.4.2 (1) to (4). The low intensity zonal response to particular qualifying matters implements Policy B2.4.2(5) which is the rationale for excluding such land for consideration as residual residential land.

Policy (3) provides for medium residential intensities in area that are within moderate walking distance to centres, public transport, social facilities and open space.

Policy (4) Provides for lower residential intensity in areas that are not close to centres and public transport, amongst other factors.

Consideration of zoning responses for the residual residential area complements PC120's targeted approach to intensification, that strengthens the AUP's district plan provisions in implementing the RPS's quality compact form and centres approach. Less residential intensity is enabled in locations with less accessibility to centres, employment amenities and public transport. Accessibility is a key indicator. Figure 59 below includes some zoning response options based on accessibility.

The accessibility of different parts of the residual residential area can be calculated using an access score from Auckland Council's Framework for Urban Access ('**FUA**'). The access scores are based on the FUA methodology (see **Appendix 2**) and calculated by the FUA tool. The FUA methodology uses a combination of validated Auckland Council data and frequently

updated public datasets to analyse access by public transport and/or walking to a range of opportunities (e.g. jobs, people, shops, schools) across the urban area of Auckland.

To reflect the relative importance of different trip purposes, the results for each opportunity type are weighted using proportions from the New Zealand Household Travel Survey ('**HHTS**'). The HHTS is the most comprehensive dataset available in New Zealand for understanding trip purpose distribution, both nationally and regionally. The result is a comparable 'access score' (between 0 and 1) at high spatial resolution across the Auckland urban area. Figure 58 below shows an example of using the FUA to determine areas of lower access (blue areas).

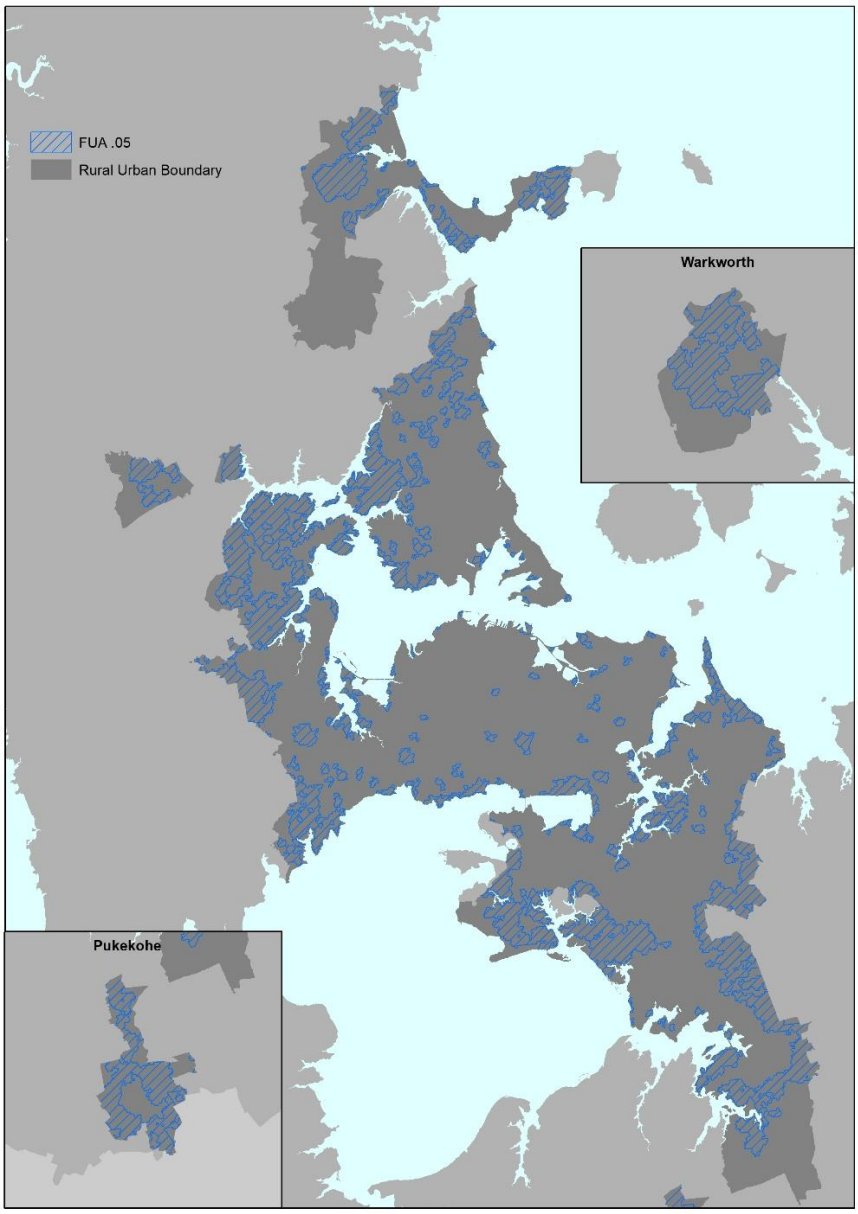


Figure 58. Example of access scores across Auckland (blue areas denote areas of lower access)

The automated GIS conversion of access scores directly to zonings results in a specific zone boundary. For example, in Figure 59 the blue shaded areas (showing areas of lower access) cut across roads and properties.

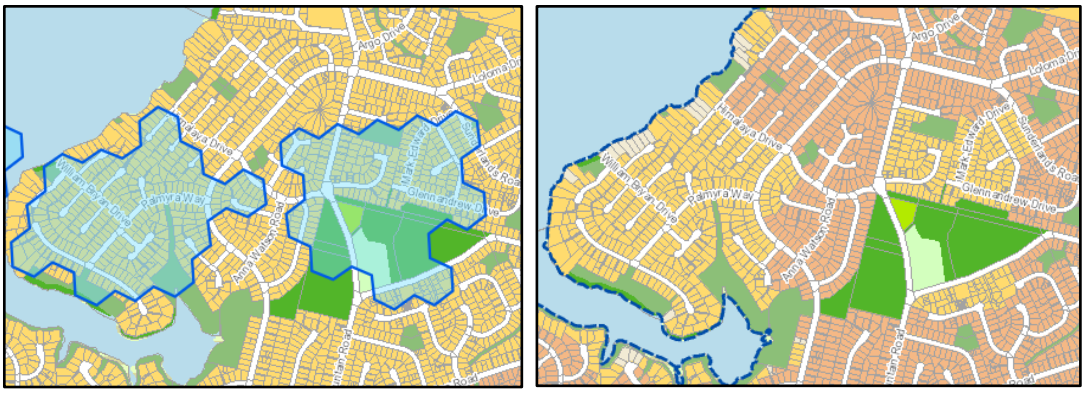


Figure 59. Left - Example of lower access scores (blue shaded area) and Right – the resulting zoning pattern

The access scores from the FUA are not intended to be site specific. Rather, the FUA is a higher-level tool identifying broader areas of higher and lower access. The irregular zoning pattern is the result of a combination of a lower spatial resolution in the FUA (hexagons) than in the AUP (sites/properties). To create a more logical zoning pattern a "cohesive zoning" exercise was undertaken following the application of the Mixed Housing Suburban and Mixed Housing Urban zones based on access scores. The cohesive zoning response extended or reduced the zoning boundaries to more logical edges such as roads and parks. More information on the cohesive zoning response is detailed in **Appendix 21**.

8.2.2 Description of options – What zonings should apply across the residual residential area?

8.2.2.1 Option 1 - Do nothing (retain existing zones)

This option would retain the existing AUP zones for the wider residual residential area.

8.2.2.2 Option 2 – Apply the Mixed Housing Urban zone in all areas

This option would apply the Mixed Housing Urban zone (as modified by PC120) to the entire residual residential area. Less intensive zonings are still enabled should there be a planning constraint on the site (e.g. natural hazards, special character).

8.2.2.3 Option 3 – Apply Mixed Housing Urban and Suburban zones depending on accessibility

The accessibility of different parts of the residual residential area can be calculated using an access score from the FUA. This option would set an access score threshold and then zone

all residual residential land under that threshold to Mixed Housing Suburban and the land over the threshold as Mixed Housing Urban.

Less intensive zonings are still enabled should there be a planning constraint on the site (e.g. natural hazards, special character).

8.2.2.4 Option 4 – Apply Single House, Mixed Housing Urban, and Mixed Housing Suburban zones depending on accessibility

This option would use the same accessibility measure as outlined in option 3 and then select two thresholds for access scores (breaking the scores into 3 categories). The lowest category would be zoned Single House, the middle category as Mixed Housing Suburban, and the highest category as Mixed Housing Urban.

Less intensive zonings are still enabled should there be a planning constraint on the site (e.g. natural hazards, special character).

8.2.3 Evaluation of options – What zonings should apply across the residual residential area?

Figure 60 below evaluates the four options for determining what zonings should apply across the residual residential area. Overall, the preferred approach is **'Option 3: Apply Mixed Housing Urban and Suburban zones depending on accessibility'**.

This option meets the housing capacity requirements of the government while also aligning with the broader compact city approach (by being based on accessibility). This option uses a FUA access score of 0.5 as the threshold between the application of the Mixed Housing Suburban zone and Mixed Housing Urban zone.

	Option 1: Do nothing (retain existing zones)	Option 2: Apply the Mixed Housing Urban zone in all areas	Option 3: Apply Mixed Housing Urban and Suburban zones depending on accessibility	Option 4: Apply Single House, Mixed Housing Urban, and Mixed Housing Suburban zones depending on accessibility
Appropriateness	This option is not appropriate as it would not enable the AUP to be amended to meet the required capacity directed by the government. Some residential properties' operative zoning does not reflect their relative accessibility to centres, employment amenities and the public transport network	This option would deliver the required capacity but would deliver a similar outcome to MDRS. That is, the use of Mixed Housing Urban everywhere would enable a significant amount of intensification throughout Auckland's suburban areas (like MDRS in PC78) by treating all residential land alike, regardless of proximity to elements of the urban environment that support greater levels of intensification. This would not be appropriate when PC120 is intended to be a deliberate shift from the PC78 approach, in which the MDRS homogenised residential zones, and is intended to reallocate the same capacity, but focus it on proximity to centres, public transport, and corridors.	This option would likely deliver on capacity but, by limiting some areas to Mixed Housing Suburban, would be more aligned to the aim of enabling sufficient housing capacity in the AUP through PC120. PC120 is a deliberate shift from the PC78 approach, in which the MDRS homogenised residential zones, and is intended to reallocate the same capacity, but focus it on proximity to centres, public transport, and corridors.	This option may deliver on capacity and by limiting some areas to Single House, would be more aligned to the RPS.
Effectiveness	It would not be effective in meeting the aim of amending the AUP to deliver the same plan enabled capacity as PC78.	This is an effective option in terms of delivering capacity but could undermine the aim to focus growth on specific locations closer to public transport, jobs and amenities.	This option would likely deliver on capacity (the access score threshold would need to ensure the capacity requirements are met).	This option may deliver on capacity (the access score thresholds would need to ensure the capacity requirements are met – but could result in a heavy reliance on Mixed Housing Urban). A three-tiered zoning response may not result in a cohesive zoning pattern especially where

	Option 1: Do nothing (retain existing zones)	Option 2: Apply the Mixed Housing Urban zone in all areas	Option 3: Apply Mixed Housing Urban and Suburban zones depending on accessibility	Option 4: Apply Single House, Mixed Housing Urban, and Mixed Housing Suburban zones depending on accessibility
				neighbourhoods have variable accessibility.
Efficiency	Requires no change to existing AUP zonings in residual residential area, so very efficient.	This option is efficient as it requires a simple change to the zoning. However, the overall net benefits are undermined by the potential to compromise the focussed growth direction of PC120.	Requires high level of administration to set up but would deliver capacity in a way more aligned to PC120's aim.	Requires high level of administration to set up but would deliver capacity in a way closely aligned to PC120's aim.
Costs	Requires no change to existing AUP zonings in residual residential area, so saves on staff time. However, would not enable AUP to meet the required capacity directed by government.	Requires only a simple change to AUP zonings in residual residential areas, so small staff time costs. Wider costs associated with undermining PC120's focussed growth direction.	Would require a high level of staff time to match the accessibility score with either zoning.	Would require a high level of staff time to match the accessibility score with the three zoning options, and ensure adequately sized zoning areas that are cohesive and robust.
Benefits	Is likely to be welcomed by some stakeholders as it retains the status quo (no intensification beyond the AUP zonings).	Delivers on the capacity requirements and could enable the reduction of intensification in some more marginal areas where some costs could be reduced (e.g. heights in some walkable catchments).	This option would likely deliver on capacity (the access score threshold would need to ensure the capacity requirements are met).	Three tiered zoning response is a more nuanced and responsive approach to zoning based on accessibility, a key determinant of accessibility directed by the RPS.
Risks	It would not enable PC120 to meet the required capacity directed by the government. It would require a significant level of intensification in the other areas (e.g. sizes and heights of walkable catchments, Policy 3(d) areas, and corridors).	Risks undermining the rationale for PC120 over PC78.That is, the use of Mixed Housing Urban everywhere would enable a significant amount of intensification throughout Auckland's suburban areas (like MDRS in PC78). PC120 is intended to reallocate the same	Heavy reliance on accessibility for determining zoning. Only using these two zones still means that the lower access areas can still be intensified via the MHS zone.	Heavy reliance on accessibility for determining zoning. This option may deliver on capacity (the access score thresholds would need to ensure the capacity requirements are met – but could result in a heavy reliance on Mixed Housing Urban).

	Option 1: Do nothing (retain existing zones)	Option 2: Apply the Mixed Housing Urban zone in all areas	Option 3: Apply Mixed Housing Urban and Suburban zones depending on accessibility	Option 4: Apply Single House, Mixed Housing Urban, and Mixed Housing Suburban zones depending on accessibility
		capacity, but focus it on centres, rapid transit stops, and corridors. Enabling this widespread suburban intensification could mean similar outcomes to PC78.		

Figure 60: Evaluation of options – Zone options for wider residual residential area.

9 Development of Plan Change

An overview of the development of the Plan Change including the methodology and information used is covered in the s32 Overview Evaluation Report for PC120.

Limited consultation was able to be carried out on PC120 due to the timeframes outlined in the RMA Amendment Act (2025). A full outline of the consultation undertaken during the preparation of PC120 is covered in the s32 Report titled, “General Engagement and Consultation”.

10 Conclusion

Section 32 requires an assessment of whether the proposed provisions are the more effective and efficient means of implementing the relevant objectives, having considered options and their costs and benefits.

In the context of the RMA the key evaluations in this report relate to enabling more capacity in the walkable catchments, within and adjacent to suburban centres, along corridors, and in the residual residential area.

This report supports the zonings and controls in PC120 as representing an effective and efficient response to providing the government directed plan enabled capacity by:

- giving effect to Policy 3 (c) and 3(d) of the NPS-UD through intensification in walkable catchments and land within and adjacent to neighbourhood, town and local centres.

- enabling the building heights and densities specified in clause 4(1)(b) and (c) of Schedule 3C of the RMA within at least the walkable catchments of Maungawhau[149] , Kingsland, Morningside, Baldwin Avenue and Mt Albert stations.

- by providing for additional intensification along selected Frequent Transit corridors and modifying zoning in suburban areas through an amended pattern of Residential - Mixed Housing Urban and Mixed Housing Suburban zones.

This section 32 evaluation report will continue to be refined in response to any consultation feedback provided to the council, and in response to any new information received.

[149] Previously referred to as “Mt Eden” station

11 Glossary / List of acronyms

Acronym or term	Meaning
AHPI	Auckland Housing Planning Instrument
ARTP	Auckland Rapid Transit Plan
AT	Auckland Transport
AUP	Auckland Unitary Plan (Operative in Part)
CCO	Council-controlled organisation
FTN	Frequent Transport Network
GFA	Gross floor area
GIS	Geographic Information System
GPS	Global Positioning System
HBA	Housing and Business Assessment
HHTS	New Zealand Household Travel Survey
HIRB	Height in relation to boundary
HVC	Height Variation Control
HGI Plan	Operative Auckland Council District Plan – Hauraki Gulf Islands (2018)
m	Metres
MEC	Modified Employment Count
MDRS	Medium Density Residential Standards
MfE	Ministry for the Environment
MHS	Residential – Mixed Housing Suburban zone
MHU	Residential – Mixed Housing Urban zone
NPS-UD	National Policy Statement on Urban Development
NZTA Waka Kotahi	Waka Kotahi NZ Transport Agency
PC78	Plan Change 78 – Intensification
PC120	Plan Change 120 – Housing Intensification and Resilience
QTN	Quality Transit Network
RLTP	Regional Land Transport Plan
RMA	Resource Management Act 1991
RPTP	Regional Public Transport Plan
RTN	Rapid Transit Network
S32/s32	Section 32 of Resource Management Act 1991
SA2	Statistical Area 2
SHZ	Residential – Single House zone
THAB	Residential – Terrace Housing and Apartment Buildings zone
Transit	Public Transport

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Appendix 1

Matters without further scope

1 Matters without further scope or necessity for an options analysis

Some of the implementation of the wording of Policy 3 does not require options to be considered as the meaning of the words or phrase are clear. Examining other options in these cases would be overly onerous and would achieve little benefit. No further options have been deemed necessary to consider for the below matters relating to the implementation of Policy 3.

1.1 What is Auckland's 'urban environment'?

Policy 3 of the NPS-UD states that it is "in relation to…urban environments". Section 77F of the RMA and the NPS-UD defines the "urban environment" as:

> "any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that: is, or is intended to be, predominantly urban in character; and is, or is intended to be, part of a housing and labour market of at least 10,000 people."

As outlined in the PC120 s32 Overall Evaluation Report, Auckland Council has interpreted this to mean in the context of Auckland to include:

> All land zoned residential, business and adjoining special purpose zones and open space zones as identified in the AUP and the Hauraki Gulf Islands District Plan, which includes metropolitan Auckland, all towns, and all rural and coastal towns and villages.

For clarity then, the urban environment in Auckland:

- includes all urban areas in the region regardless of size that are of an urban character
- includes all urban areas that are part of the wider Auckland housing and labour market
- includes areas which are zoned for urban purposes, but which are not yet urbanised (i.e. areas "intended" to be urban in character)
- utilises zonings already in the AUP
- does not include the Future Urban Zone.

One key implication of this is that Policy 3(d) applies to neighbourhood, local, and town centre zones in Auckland's rural towns and settlements.

1.2 What are 'equivalent' zones?

Policy 3 of the NPS-UD refers to the following specific zones in which intensification is directed in and around:

- City Centre zone
- Metropolitan Centre zone
- Town Centre zone
- Local Centre zone
- Neighbourhood Centre zone

Section 1.4(4) of Part 1 of the NPS-UD states:

> "A reference in this National Policy Statement to a zone is: a reference to that zone as described in Standard 8 (Zone Framework Standard) of the National Planning Standard; or a reference to the nearest equivalent zone, in relation to local authorities that have not yet implemented the Zone Framework in the National Planning Standard."

Auckland Council has not yet implemented the Zone Framework from the National Planning Standard. The MfE guidelines[1] on implementing the NPS-UD state that where a local authority has not adopted the standards, then the nearest equivalent zone must be used. Local authorities should rely on the zone descriptions and intent in the standards and compare and align this with their current zoning to work out what the nearest equivalent zone is.

Many of the zones in the National Planning Standard have the same or similar zone names and descriptions as those in the AUP. Based on this, the equivalent AUP zones are outlined below.

1.2.1 City Centre zone

Table 13 of the National Planning Standards includes the "City centre zone". This is described as "Areas used predominantly for a broad range of commercial, community, recreational and residential activities. The zone is the main centre for the district or region."

The equivalent zone in the AUP is the "Business – City Centre Zone" (Chapter H8 of the AUP). The zone description states "The city centre is the top of the centres hierarchy and plays a pivotal role in Auckland's present and future success. The Business – City Centre Zone seeks to ensure the city centre is an international centre for business and learning, innovation, entertainment, culture and urban living…"

The Business – City Centre Zone is shown in "violet red" on the AUP maps as shown in Figure 1 below:

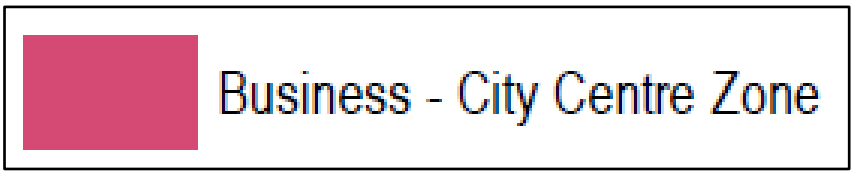

Figure 1: Auckland Unitary Plan zone colour of the Business - City Centre zone

1.2.2 Metropolitan Centre zone

Table 13 of the National Planning Standards includes the "Metropolitan centre zone". This is described as "Areas used predominantly for a broad range of commercial, community, recreational and residential activities. The zone is a focal point for sub-regional urban catchments."

[1] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment.

The equivalent zone in the AUP is the “Business – Metropolitan Centre Zone” (Chapter H9 of the AUP). The zone description states “The Business – Metropolitan Centre Zone applies to centres located in different sub-regional catchments of Auckland. These centres are second only to the city centre in overall scale and intensity and act as focal points for community interaction and commercial growth and development and contain hubs serving high frequency transport.

The zone provides for a wide range of activities including commercial, leisure, high-density residential, tourist, cultural, community and civic services. Zone provisions, in conjunction with rules in the other business zones, reinforce metropolitan centres as locations for all scales of commercial activity…”

The Business – Metropolitan Centre Zone is shown in “violet red and hot pink hatching” on the AUP maps as shown in Figure 2 below:

Figure 2: Auckland Unitary Plan zone colour of the Business - Metropolitan Centre zone

1.2.3 Town Centre zone

Table 13 of the National Planning Standards include the “Town centre zone”. This is described as “Areas used predominantly for:

- in smaller urban areas, a range of commercial, community, recreational and residential activities.
- in larger urban areas, a range of commercial, community, recreational and residential activities that service the needs of the immediate and neighbouring suburbs.”

The equivalent zone in the AUP is the “Business – Town Centre Zone” (Chapter H10 of the AUP). The zone description states “The Business – Town Centre Zone applies to suburban centres throughout Auckland, the satellite centres of Warkworth and Pukekohe, and the rural towns of Helensville and Wellsford. The centres are typically located on main arterial roads, which provide good public transport access.

The zone provides for a wide range of activities including commercial, leisure, residential, tourist, cultural, community and civic services, providing a focus for commercial activities and growth…”

The Business – Town Centre Zone is shown in “hot pink” on the AUP maps as shown in Figure 3 below:

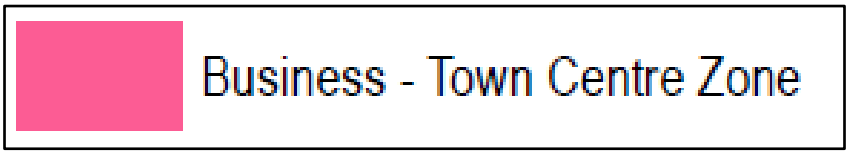

Figure 3: Auckland Unitary Plan zone colour of the Business - Town Centre zone

1.2.4 Local Centre zone

Table 13 of the National Planning Standards include the “Local centre zone”. This is described as “Areas used predominantly for a range of commercial and community activities that service the needs of the residential catchment.”

The equivalent zone in the AUP is the “Business – Local Centre Zone” (Chapter H11 of the AUP). The zone description states “…Areas used predominantly for a range of commercial and community activities that service the needs of the residential catchment…”

The Business – Local Centre Zone is shown in “neon pink” on the AUP maps as shown in Figure 4 below:

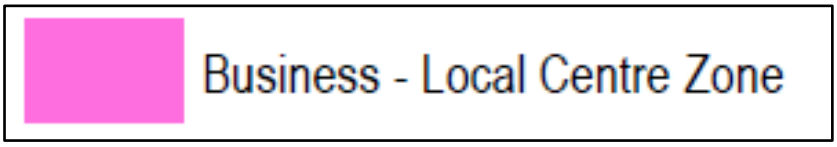

Figure 4: Auckland Unitary Plan zone colour of the Business - Local Centre zone

The AUP zones do not cover the Hauraki Gulf islands. The zonings for the islands are set out in the Operative Auckland Council District Plan – Hauraki Gulf Islands section (2018) (‘**HGI section**’). A comparison of the HGI section zones to the AUP zones and the National Planning Standards zones is included in **Appendix 17**.

The following zones in the HGI section are considered to be the equivalent of the “Local centre zone” in the National Planning Standards:

- Commercial 2 (Ostend village)

  This HGI section zone is the administrative centre of Waiheke, with most site sizes being greater than 1,000m^2 with a mix of commercial, residential and community facilities. The main supermarket and council offices are located at Ostend. The objectives and policies enable and consolidate commercial and community facilities.

- Matiatia (gateway)

  This HGI section land unit provides currently for a ferry terminal and surrounding transport facilities while the objectives and policies allow for a mix of activities including retail, offices and restaurants and cafes. Height of up to 8m in the mixed use portion of the area. As the wharf in the area only covers a small area while the rest of the area is intended for a mix of uses, this most closely aligns with the “Local centre zone” in the National Planning Standards.

1.2.5 Neighbourhood Centre zone

Table 13 of the National Planning Standards includes the “Neighbourhood centre zone”. This is described as “Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood.”

The equivalent zone in the AUP is the “Business – Neighbourhood Centre Zone” (Chapter H12 of the AUP). The zone description states “The Business – Neighbourhood Centre Zone

applies to single corner stores or small shopping strips located in residential neighbourhoods. They provide residents and passers-by with frequent retail and commercial service needs…"

The Business – Neighbourhood Centre Zone is shown in "pale violet red" on the AUP maps as shown in Figure 5 below:

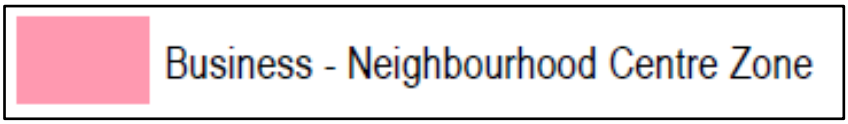

Figure 5: Auckland Unitary Plan zone colour of the Business - Neighbourhood Centre zone

The AUP zones do not cover the Hauraki Gulf islands. The zonings for the islands are set out in the Operative Auckland Council District Plan – Hauraki Gulf Islands section (2018) ('**HGI section**'). The following zones in the HGI section are considered to be the equivalent of the "Neighbourhood centre zone" in the National Planning Standards:

- Commercial 1 (Oneroa village)

  This HGI section zone is described as providing generally small scale retail and other commercial activities for relatively high volumes of traffic. Oneroa has a stronger tourism function with cafes, shops, museum, art gallery etc. The island's only library is also located at Oneroa. The objectives and policies enable a vibrant, varied and safe retail environment and allow appropriate commercial growth.

- Commercial 3 (Local shops)

  This HGI section zone is defined as having "a smaller scale than retail activities within the main commercial centres of Oneroa and Ostend". The objectives and policies provide for small scale retail, and certain non-retail activities, in close proximity to residential areas".

- Commercial 4 (visitor facilities)

  This HGI section zone is described as providing for visitor facilities and camping facilities (and restaurants as a Discretionary activity), while not providing for dwellings.

- Tryphena (local retailing area)

  The objectives and policies of this HGI section area is to concentrate good quality visitor and local retail development and activities within the local retailing area.

- Claris (local retailing area)

  The objective of this HGI section retail area is "to facilitate the establishment of local retail, service and visitor activities of high amenity in the local retailing area, without compromising the function of Claris airport".

- Okiwi (local retailing area)

  The objective of this HGI section retail area is "to provide an area for commercial activities which are compatible with the character and scale of Okiwi, to service the north part of Great Barrier".

- Port Fitzroy (local retailing area)

This HGI section area provides retail activities which are compatible with the Port Fitzroy area.

1.3 What does ‘in’ and ‘within’ mean?

Policy 3(a) and (b) use the term “in” whereas Policy 3(c) and (d) use the term “within”.

(a) *in* city centre zones…
(b) *in* metropolitan centre zones…
(c) …*within* at least a walkable catchment of…
(d) *Within*…neighbourhood centre zones, local centre zones, and town centre zones (or equivalent)…

The use of the word “in” in Policy 3 denotes all land that is *zoned* Business – City Centre or Business – Metropolitan Centre in the AUP.

In relation to Policy 3(c) the use of the word “within” denotes all land that is inside the walkable catchments. In relation to Policy 3(d) it denotes all land that is zoned Business – Neighbourhood Centre zone, Business – Local Centre zone, and Business – Town Centre zone in the AUP.

1.4 Where is the edge of the City Centre zone and the Metropolitan Centre zones?

Policy 3(c)(ii) and (iii) refer to the edges of City Centre and Metropolitan Centre zones – being the points at which to measure a walkable catchment from. The MfE guidance on implementing the NPS-UD states that the ‘edge’ could be defined as the outside edge of the parcels, or groups of parcels, zoned as either City Centre zone or Metropolitan Centre zone, including any streets or open space that may be within that area[2]. The guidance provides the diagram below in Figure 6 as an example of where the edge of a Metropolitan Centre zone would be.

[2] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment Section 5.5.1

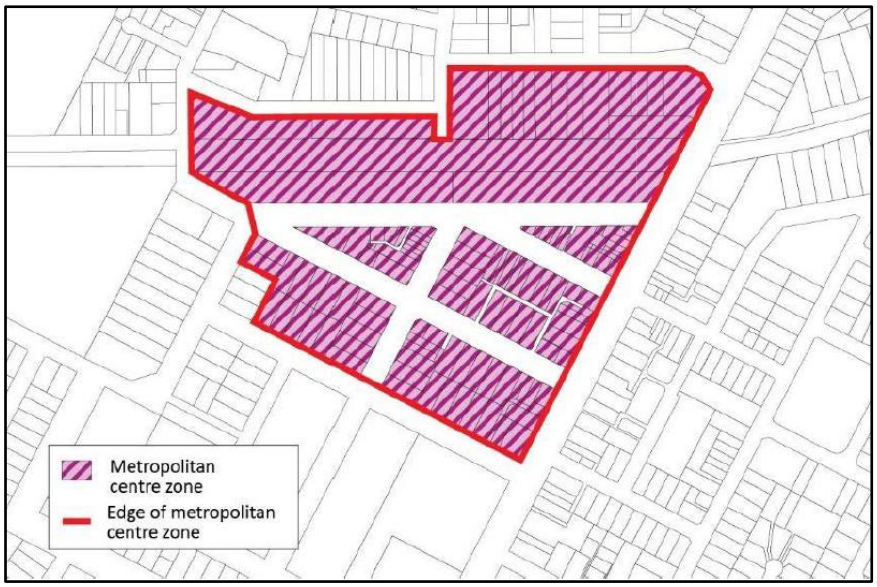

Figure 6: Diagram showing the "edge" of a Metropolitan Centre zone

Auckland Council has followed the intention of the guidance but rather than identify a continuous ‘edge’ the council has plotted ‘entrance points’ along the edge of the centre zones (Metropolitan and City Centre zones). This was done to enable walkable catchments to be generated in GIS more efficiently, while still following the intention of the guidance.

The entrance points at the edge of the Metropolitan Centres and the City Centre were identified and mapped by the Auckland Council’s GIS team with the following approach:

- The edge of the Metropolitan Centre and the City Centre zones were determined from the AUP layer.
- The walking dataset was added to the map which shows each location where there is a walkway (i.e. road, footpath, recreational track) at the edge of the zone boundary.
- ‘Entrance points’ were plotted along the walking dataset closest to the edge of the centre zone.
- Aerial basemaps and Google Street View were used to assist in identifying these entrance points.

The walkable catchment measurements started from each of these entrance points. Entrances points are only required at the outer extremes as these will generate the furthest catchment from the edge. Figure 7 below shows an example of where the entrance points were plotted on the walking dataset along the edge of a Metropolitan centre zone.

Figure 7: Example of entrance points plotted on the walking dataset along the edge of a centre

When plotting the entrance points it was important to note that the walkable catchments are generated along the walking network. Therefore, there is no use in plotting entrance points where the road network does not exist (e.g. an undeveloped piece of land with no road network) as the GIS calculation will not generate any catchment from that point.

A Network Analysis is then performed using GIS. Based on the 800m walking distance set for a Metropolitan Centre (as an example), the following parameters Service Area Analysis were used to run the analysis to generate the Walkable catchment of 800 metres from the edge of the zone (using the 'entrance points'). The process is shown in Figure 8 below.

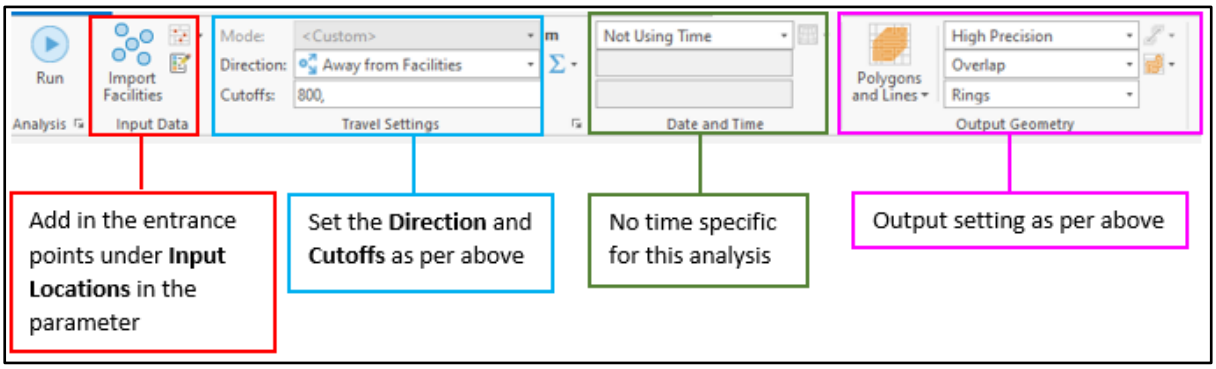

Figure 8: GIS process to generate walkable catchments based on 'entrance points'

Maps showing the 'entrance points' for the Metropolitan Centre zones are in **Appendix 13** and those for the City Centre zone are in **Appendix 14**.

1.5 What does ‘building heights’ mean?

The National Planning Standards define a building as:

> *“a temporary or permanent movable or immovable physical construction that is:*
>
> *(a) partially or fully roofed; and*
>
> *(b) fixed or located on or in land;*
>
> *but excludes any motorised vehicle or other mode of transport that could be moved under its own power.”*

The National Planning Standards define height as:

> *“the vertical distance between a specified reference point and the highest part of any feature, structure or building above that point.”*

Where Policy 3 refers to building heights, it is the ordinary meaning of this phrase in light of the above definitions. That is, the vertical distance (height) of a physical construction (building) that is located on land.

1.5.1 What does ‘at least 6 storeys’ mean?

Policy 3(b) and (c) refer to enabling building heights of “at least 6 storeys”. The AUP height standards are not calculated in storey units, but rather are measured in metres.

To enable a 6 storey building in a walkable catchment, a height of 22m is required. The 22m total building height standard is based on enabling a ‘viable’ 6 storey apartment building. This is considered to enable a more viable and better quality 6 storey apartment building than the existing Terrace Housing and Apartment Buildings zone (‘**THAB**’) 6 storey Height Variation Control of 19.5m.

The 22m height is made up of:

4m:	4m ground floor height
15.5m:	3.1m floor to floor heights (x 5)
2.5m:	Design flexibility to reflect site conditions/architectural requirements

Total: 22m

Where Policy 3 refers to “at least” 6 storeys this means that a minimum of 6 storeys must be enabled, but 6 storeys is not necessarily the maximum height – it could be higher (but not lower) than 6 storeys.

It is also pertinent to note that the AUP must only enable buildings of at least 6 storeys and does not require new developments to be at least 6 storeys. The MfE guidance on implementing the intensification provisions of the NPS-UD states:

> "For the avoidance of doubt, the six-storey minimum is the minimum district plans must enable and not a minimum development rule. For example, local authorities are not required to set objectives, policies and rules to prevent the construction of buildings less than six storeys. While plans must enable six or more storeys, a developer or land owner can still choose to construct a four-storey building."[3]

1.6 What does 'density of urban form' mean?

Policy 3 of the NPS-UD refers to regional policy statements and district plans enabling a "density of urban form". The AUP contains various provisions that relate directly to density such as rules around how many dwellings are permitted per site[4].

However, to genuinely enable additional density it is not just the rules specifically related to density of dwellings on a site that need to be considered. The full package of controls that affect total development space need to be considered such as gross floor area, yard and podium setbacks, and recession planes.

Therefore, the council has examined the potential limitations on density on typical urban sites and propose to amend various objectives, policies, and rules throughout the AUP to enable higher densities of urban form. This work is covered in detail in the s32 reports on the various zones.

1.7 What is a 'rapid transit service'?

The NPS-UD defines a rapid transit service as "any existing or planned frequent, quick, reliable and high-capacity public transport service that operates on a permanent route (road or rail) that is largely separated from other traffic."

Terms used within this definition (such as frequent, quick, reliable, and largely) are not further defined, leaving scope for councils to apply their own interpretation. The MfE guidance on implementing the NPS-UD does not provide any further assistance on what these terms mean, but the guidance does specifically state that examples of existing rapid transit stops include train stations on the commuter rail services in Auckland and bus stations on Auckland's Northern Busway[5].

1.7.1 The Auckland Rapid Transit Pathway (2025)

The Auckland Rapid Transit Pathway (ARTP) sets out a technical basis for how Auckland's rapid transit system could develop over the next 30+ years. It provides a consolidated 'network view' supported by technical evidence from existing plans, strategies and business cases. It helps support informed and aligned decisions about Auckland's rapid transit network.

[3] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 6.3
[4] For example Table H3.4.1 (A6) "More than one dwelling per site…" is a non-complying activity.
[5] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.1

The ARTP elaborates on the NPD-UD definition of 'rapid transit' to emphasise the role of rapid transit as the core of Auckland's wider public transport network and its importance in shaping the region's growth and urban development. The ARTP definition of rapid transit is:

> "Rapid transit provides fast, frequent, and reliable high-capacity access along dedicated strategic corridors that are largely separated from other modes and unaffected by congestion. Rapid transit is the backbone of Auckland's public transport network and is critical to supporting and shaping its growth and urban form."

While similar to the NPS-UD definition of a 'rapid transit service', there are some differences in the approach.

1.7.2 Interpreting the key terms in the NPS-UD definition of 'rapid transit service'

The key terms in the NPS-UD definition of a 'rapid transit service' are shown in bold below and then explained further, with reference to the further work in the ARTP on what it means in the Auckland context.

> "any existing or planned **frequent**, **quick**, **reliable** and **high-capacity** public transport service that operates on a **permanent route** (road or rail) that is **largely separated** from other traffic."

Note that the words 'existing' and 'planned' are covered in separate sections in the s32 report

'Frequent':

Rapid transit services form part of the frequent public transport network and therefore operate at frequencies that enable users to 'turn up and go' at most times of day, seven days a week. These high frequencies enable rapid transit to quickly shift large numbers of people and allow for efficient connections between different public transport services. For the purposes of the NPS-UD it is considered that scheduled frequencies of no more than 15 minutes are necessary to meet this 'turn-up-and-go' need.

'Quick':

Rapid transit services must offer time-competitive travel with private vehicles, particularly at peak times. This does not require rapid transit to always be faster than travel by private vehicle. However, it does mean travel times must be close enough that other advantages of rapid transit (such as its reliability) make it a highly attractive option. To achieve this, rapid transit is generally faster than other public transport services, through provision of a dedicated corridor and wider spacing between stops.

'Reliable':

Rapid transit services must operate with very high levels of reliability and be unaffected by other parts of the transport network. They will have priority over other traffic through a dedicated corridor and/or priority at intersections. High reliability helps make rapid transit services competitive with private vehicles. Reliability complements frequency, by ensuring even spacing between services and predictable departure times, which enhances the customer experience.

‘High capacity’:

Rapid transit services must have high capacity (i.e. be able to move a large number of people at once). This is linked to the size of the vehicle (i.e. double decker buses, multiple-car trains) in combination with high frequency services. This means that rapid transit services can move significant numbers of people per hour in a relatively small amount of space.

‘Permanent route’:

A key difference between general public transport services and rapid transit services is that the routes of the former can often change, as a bus route can be changed relatively easily. This contrasts with rapid transit services which are fixed on permanent routes and therefore form the backbone of a public transport system. The fixed route gives greater certainty to residents, businesses and land developers that the service will remain in the future.

The definition specifically limits rapid transit services to services that operate on permanent road or rail routes. Therefore, this excludes ferries from being considered a rapid transit service.

Largely separated from other traffic:

To ensure other qualifications of a rapid transit service are met (e.g. quick and reliable), rapid transit services need to be separated from other traffic. When public transport shares routes with other traffic there is the risk (if not likelihood) that congestion will hinder the service’s speed and reliability. In simple terms, the rail corridor and the dedicated busways are the public transport routes in Auckland that are separated from other traffic.

However, the NPS-UD definition only states that rapid transit services must be ‘largely’ separated from other traffic. This potentially opens up the definition to include other public transport services, such as those that run along painted bus lanes.

There seems to be no explicit explanation of the term “largely” in the development of the NPS-UD. However, it would appear its use is based on two matters:

- A national policy statement

  The NPS-UD is a national statement that applies not only to Auckland but in other centres in New Zealand (e.g. Christchurch) where there is no rapid transit of Auckland’s standard. The definition in the NPD-UD is written so that it can be applicable in those other centres.

- The Northern Busway

  The use of the term ‘largely’ also ensures that the Northern Busway comes within the definition of a rapid transit service. The Northern Busway is not separated from other traffic along its whole route. It operates along a separated two-way road for buses between the Albany Station and the Auckland Harbour Bridge. Between the Harbour Bridge and the terminus in the Auckland city centre, the route is a mix of regular traffic lanes and painted bus lanes.

Auckland's rapid transit services

In conclusion, Auckland's existing and planned (RLTP) rapid transit network comprises:

- the three lines[6] (Western, Southern, Eastern) of the heavy rail network between Swanson and Pukekohe, including the Central Rail Link ('CRL').
- the Northern Busway
- the Eastern Busway.

It is noted that most of Auckland's rapid transit services do not yet exist. The Akoranga to Albany section of the Busway and the Britomart to Newmarket section of the rail network are the only sections that currently meet the definition. However, most of the rest of the network is planned in the RLTP to meet the definition as the rail network frequencies increase post CRL.

Based on the interpretation of 'rapid transit service' outlined above, the sections below explain what the existing and planned rapid transit *stops* are in Auckland.

1.8 What are Auckland's 'existing' rapid transit stops?

The NPS-UD defines a "rapid transit stop" as "a place where people can enter or exit a rapid transit service, whether existing or planned". The MfE guidance on implementing the NPS-UD states that examples of existing rapid transit stops include train stations on the commuter rail services in Auckland and bus stations on Auckland's Northern Busway.[7]

Based on the interpretation of Auckland's rapid transit services (addressed in the above section), the 43 existing rapid transit stops in Auckland are listed in Figure 9 below.

No.	Station name	Route	No.	Station name	Route
1	Akoranga Bus Station	Nth BW	23	Ōrākei Train Station	Eastern
2	Albany Bus Station	Nth BW	24	Ōtāhuhu Train Station	Southern
3	Avondale Train Station	Western	25	Panmure Train Station	Eastern
4	Baldwin Ave Train Station	Western	26	Papakura Train Station	Southern
5	Constellation Bus Station	Nth BW	27	Papatoetoe Train Station	Southern
6	Ellerslie Train Station	Southern	28	Penrose Train Station	Southern
7	Fruitvale Rd Train Station	Western	29	Puhinui Train Station	Southern
8	Glen Eden Train Station	Western	30	Pukekohe Train Station	Southern
9	Glen Innes Train Station	Eastern	31	Rānui Train Station	Western
10	Grafton Train Station	Western	32	Remuera Train Station	Southern
11	Greenlane Train Station	Southern	33	Parnell Train Station	Southern / Western
12	Henderson Train Station	Western	34	Smales Farm Bus Station	Nth BW
13	Homai Train Station	Southern	35	Sturges Rd Train Station	Western
14	Kingsland Train Station	Western	36	Sunnynook Bus Station	Nth BW
15	Manukau Train Station	Southern	37	Sunnyvale Train Station	Western

[6] The Onehunga Branch Line (Onehunga and Te Papapa stations) is not considered a rapid transit service as it is not planned to reach the frequencies required (only two trains per hour are planned).
[7] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.1

No.	Station name	Route	No.	Station name	Route
16	Manurewa Train Station	Southern	38	Swanson Train Station	Western
17	Meadowbank Train Station	Eastern	39	Sylvia Park Train Station	Eastern
18	Middlemore Train Station	Southern	40	Takaanini Train Station	Southern
19	Morningside Train Station	Western	41	Te Mahia Train Station	Southern
20	Mt Albert Train Station	Western	42	Waitematā Train Station	All
21	New Lynn Train Station	Western	43	Williams Ave Bus Station	East BW
22	Newmarket Train Station	Western / Southern			

Figure 9: List of Auckland's existing rapid transit stops

The above list of stations ('stops') are existing in terms of the station infrastructure itself. However, note that in many cases the actual rapid transit service is not yet in operation (as the current frequencies do not meet the definition of a rapid transit service). So, these stations are *existing* 'rapid transit stops' for a *planned* 'rapid transit service'.

Note that for the purposes of determining walkable catchments for existing rapid transit stops, the MfE guidance suggests using the pedestrian entrances and exits to the stops or stations. These better represent the location of the station as part of the pedestrian network than the station's centre point, which is often represented as a dot in the middle of the tracks and/or busway.[8] Maps showing the 'entrance points' for Auckland's existing rapid transit stops are included in **Appendix 12**.

1.9 What are Auckland's 'planned' rapid transit stops?

The NPS-UD defines "planned rapid transit stops" as "planned in relation to forms or features of transport, means planned in a regional land transport plan prepared and approved under the Land Transport Management Act 2003".

1.9.1 Funding

The Regional Land Transport Plan (2024 – 2034) ('**RLTP**') is the 10-year plan for Auckland's transport network. It details the areas that Auckland Transport, Waka Kotahi NZ Transport Agency and KiwiRail will focus on to respond to the region's transport challenges. It also outlines the proposed 10-year investment programme for specific transportation projects.

However, the RLTP is primarily a funding document, and therefore it does not show the detail of planned rapid transit routes or stops. The MfE guidance on implementing the NPS-UD acknowledges that:

"Planned rapid transit stops identified in an RLTP are often only an intention to plan or build a station at some point in the future. Often the RLTP provides no specific information on the station's location. For example, the Auckland RLTP (2018) notes a number of new stations will be built for the Eastern Busway but does not show on a map where these will be. In other

[8] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.1

cases, an RLTP may only show on a map an approximate indication of where a proposed station may be."

1.9.2 Certainty of location

As a planned rapid transit stop identified in an RLTP provides no specific information on the station's location, it is impossible to locate the exact pedestrian entrances and exits to the stations for the purposes of determining a walkable catchment. Therefore, being in an RLTP alone is not enough for a station to be considered 'planned' and have a walkable catchment applied.

Rapid transit projects usually go through a number of different stages in their development. They could be identified in a regional planning document, before being evaluated in an indicative (or other high-level) business case, then a detailed business case, before being identified in public planning documents as a designation before construction finally commences. Public consultation and engagement could happen a number of times through this process, though most importantly it is required as part of the statutory RMA planning process of a Notice of Requirement (for a designation).

An incorrect walkable catchment could be identified if it is based on an indicative rapid transit station location, as the station location may shift (potentially hundreds of metres away) once the more detailed work is done. This is especially relevant given the MfE's guidance on using station entrances and exits[9] to calculate walkable catchments from – indicating a level of accuracy for walkable catchments that cannot be concluded from indicative station locations.

Therefore, an appropriate point in the process of developing a rapid transit stop must be found where a stop location is known with sufficient certainty. It is considered that this point is the confirmation of a notice of requirement by the requiring authority[10] to designate the station location. At this point in the process the stop/station has:

- considerable certainty of location and design. In reaching this point alternatives would have been evaluated and detailed design undertaken.
- Indicates some level of financial commitment.
- Allows for the best coordination of planning processes
- Provides for clear public engagement[11] and joint messaging between Auckland Transport, Waka Kotahi, Kiwirail, and Auckland Council.

1.9.3 Criteria to determine a 'planned' rapid transit stop

In the context of Auckland a rapid transit stop is considered to be 'planned' when it meets all the criteria below:

- Funding for the physical infrastructure and the service must be identified in the RLTP; and

[9] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.1
[10] That is not subject to any appeals.
[11] The alternative of consulting on zoning changes before the station location itself would be very confusing for the public and could lead to accusations of predetermining station locations prior to the public opportunity for input.

- The route is shown as being a rapid transit network in the RLTP; and
- A Notice of Requirement (for a designation) has been confirmed by the requiring authority for the station location (and is not subject to appeal).

Based on this, the 11 'planned' rapid transit stops in Auckland are:

1.	Drury Train Station[12]	2026	New southern line station between Papakura and Pukekohe
2.	Ngākōroa Train Station[13]	2026	New southern line station between Papakura and Pukekohe
3.	Paerātā Train Station[14]	2026	New southern line station between Papakura and Pukekohe
4.	Te Waihorotiu Train Station[15]	2026	New City Rail Link station
5.	Karanga-a-Hape Train Station[16]	2026	New City Rail Link station
6.	Maungawhau Train Station[17]	2026	New City Rail Link station
7.	Pakūranga Bus Station	2027	New Eastern Busway station
8.	Te Taha Wai Bus Station[18]	2027	New Eastern Busway station
9.	Pōhatu Bus Station[19]	2027	New Eastern Busway station
10.	Koata Bus Station[20]	2027	New Eastern Busway station
11.	Rosedale Bus Station	2027	New Northern Busway station

In total there are **54** 'existing and planned rapid transit stops' in Auckland.

Note that for the purposes of determining walkable catchments for planned rapid transit stops, the MfE guidance suggests using the pedestrian entrances and exits to the stops or stations.[21] Maps showing the 'entrance points' for Auckland's planned rapid transit stops are included in **Appendix 12**.

1.9.4 'Future' rapid transit stops

Error! Reference source not found. below shows the existing, planned (in the RLTP), and future rapid transit network for Auckland.

[12] Previously referred to as "Drury Central" or "Maketuu" station
[13] Previously referred to as "Drury West" or "Ngaakooroa" station
[14] Previously referred to as "Paeraataa" station
[15] Previously referred to as "Aotea" or "Midtown" station
[16] Previously referred to as "Karangahape" station
[17] Previously referred to as "Mt Eden" station
[18] Previously referred to as Edgewater Bus Station
[19] Previously referred to as Burswood Bus Station
[20] Previously referred to as Gossamer Bus Station
[21] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5.1

There are a number of 'future' rapid transit stops[22] in Auckland that have some planning underway, but as yet do not meet the criteria for being deemed a 'planned rapid transit stop'. Therefore, it would be premature to identify walkable catchments around these stops under Policy 3(c). These stops relate to future rapid transit service projects such as the Airport to Botany Bus Rapid Transit and Te Ara Hauāuru – Northwest Busway. While designations are in place for most stations in these projects, the funding of these projects is not certain within the next 10 years. The Botany station of the Eastern Busway project is also considered a 'future' rapid transit stop as there is currently no designation in place to lock down the specific location of the station.

The stations listed below are 'future' rapid transit stops in Auckland that are the most advanced in their planning:[23]

1. Botany	Eastern Busway
2. Brigham Creek	North Western Busway
3. Lincoln Road	North Western Busway
4. Point Chevalier	North Western Busway
5. Royal Road	North Western Busway
6. Te Atatu	North Western Busway
7. Western Springs	North Western Busway
8. Westgate	North Western Busway
9. Airport Terminal	Airport to Botany
10. The Quad	Airport to Botany
11. Lambie Drive	Airport to Botany
12. Ronwood Ave	Airport to Botany
13. Diorella Drive	Airport to Botany
14. Dawson Road	Airport to Botany
15. Ormiston Road	Airport to Botany
16. Accent Drive	Airport to Botany
17. Smales Road	Airport to Botany

[22] This is not a term referred to in the NPS-UD.
[23] This is not intended to be an exhaustive list.

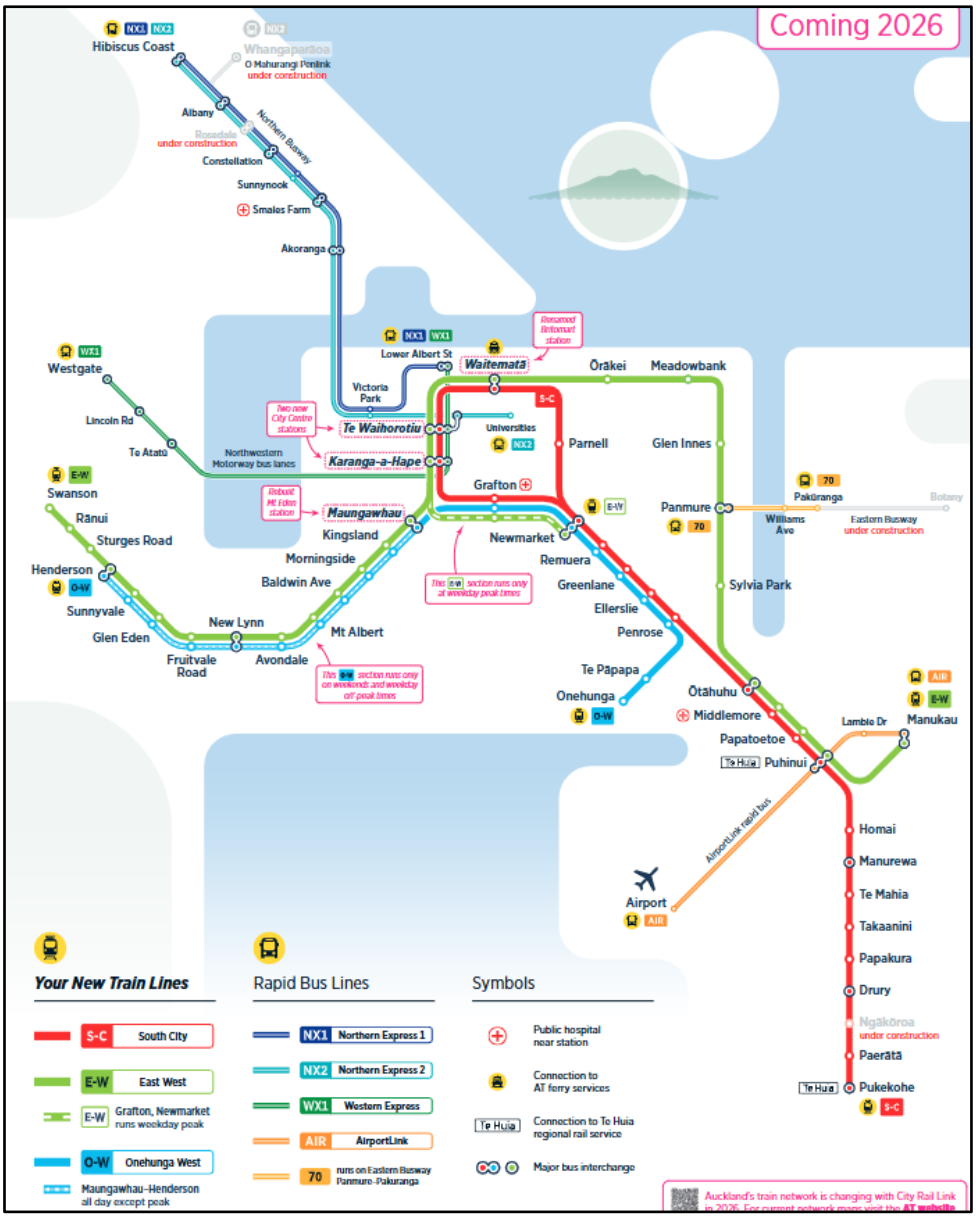

Figure 10: Auckland's existing and planned train and rapid buses coming 2026[24]

PC120 does not seek to identify a walkable catchment for these stations, or any other 'future' rapid transit stops under Policy 3(c). However, the implementation of the NPS-UD is not a 'once only' opportunity under PC120. The AUP will still need to "give effect" to the NPS-UD going forward. Therefore, further plan changes in the future will be necessary to identify walkable catchments for these stations, once they met the criteria of a 'planned rapid transit stop'.

[24] Source: Auckland Transport (2025). *City Rail Link: Auckland's new network in 2026*. https://at.govt.nz/projects-initiatives/city-centre-projects-and-initiatives/city-rail-link-auckland-s-new-network-in-2026/how-the-train-network-and-timetables-will-change-for-the-city-rail-link#index-93bc1c66b170234edf458068d0de34453239d59c42302c48e9548a6ada598e54

Appendix 2

Framework for Urban Access Tool Methodology

1 Document Control

1.1 Document History

Version	Date	Updated by	Update details
1.0	12/02/25	Tim Harton, Rhys Williams	MRCagney issued recommended methodology documents collated into one draft document
1.1	16/05/25	Rhys Williams	Draft updated to match regional version of Urban Access Tool
1.2	09/07/25	Rhys Williams	Draft updated to include an appendix around the treatment of slope in the Urban Access Tool
1.3a	12/09/25	Rhys Williams	Rewrite (no technical changes) for more readability, reduction to only base measure

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2 Context for Integrated Intensification Plan Change

For Plan Change 120 - Housing Intensification and Resilience (PC120), the Framework for Urban Access (FUA) methodology and Urban Access Tool were used to evaluate levels of transport accessibility ('access') across the Auckland urban area in hexagon-shaped summary areas.

The FUA is on an iterative development path. This development path includes a **base measure** as presented in this report, i.e. the first iteration of the FUA methodology. Further phases include '**next steps'** which will be developed in the medium term after more investigation, and '**stretch goals'** which will be developed in the longer term based on new research. The FUA methodology will be re-published as these next steps and stretch goals are refined and implemented.

In this appendix attached to the Section 32 evaluation reports for Proposed Plan Change 120, the '**base measure**' is presented, though elements of the **next steps** and **stretch goals** have been scoped. This approach ensures that the descriptions in the appendix clearly identify the analysis performed in the preparation of the Plan Change, without being exhaustive as to the elements that were considered as part of the development.

The '**base measure**' outputs, informed by the FUA and produced by the associated Urban Access Tool, were based on the following data/configurations:

- Travel mode: Public transport and walking network (see section 4.2)
- Time of day: Morning peak - weekday (see section 4.3)
- Public transport network: Based on GTFS feed from Auckland Transport representing the post-CRL scheduled public transport network (see section 4.2)

3 Introduction

Since 2023, Auckland Council has developed the Framework for Urban Access (FUA) to establish a shared evidence base for access across the council group. Its purpose is to define and measure access in a consistent, meaningful way—supporting policy, planning, and investment decisions that shape our urban environments. Central to this work is the development of a holistic measure of access that reflects the amenities people rely on in their daily lives, ensuring that access is understood not just as proximity, but as opportunity.

This methodology describes the implemented approach for measuring access in Auckland within the development plan of the broader FUA programme. The approach describes how the measure could consider different components such as users, travel modes and destinations. The methodology was developed along a python-based[1] spatial analysis tool (the Urban Access Tool) that produces and visualises access scores in line with the methodology throughout the Auckland urban area.

3.1 Basis of access measure

The fundamental reason people travel is to meet their needs. Consequently, the access measure is based on two key ideas:

1. People must access a variety of different destinations to meet their needs
2. Destinations that are nearby are more accessible than destinations that are further away

All people need access to a variety of different places, facilities, and services. People's needs also differ depending on factors such as their life stage, culture, and personal circumstances. The measure considers what range of destinations people can reach from a given location. It also considers the importance of those destinations, based on how frequently people currently access different destination types.

3.2 Approach and structure of the methodology

The access measure, the associated tool and the versioned outputs are continuously in development. However, each version of the tool is matched to a version of the methodology. Version tracking ensures that the results can be cross-referenced to the versions of this methodology to ensure that the process producing a set of results is well understood.

[1] Including, amongst others, the open source libraries urbanaccess (AGPL v3 license), pandana (AGPL v3 license), geopandas (BSD license), pyrosm (MIT license), numpy (BSD license), openpyxl (MIT license)

4 Components of Access Measurement

The main components that are often considered in access scores are:

- the types of network users
- travel mode
- the time of day of travel
- the starting point of the journey
- the summary areas analysed
- how the ‘cost’ or impedance of access is measured
- the destinations people are travelling to

4.1 Types of network users

Access measures should reflect the diversity of people using the transport network, including those with mobility, sensory, or cognitive impairments, and people with different confidence levels or affordability constraints. These factors influence walking speed, ability to use stairs, reliance on accessible infrastructure, and tolerance for transfers or long walking distances. While a fully inclusive measure is the long-term goal, it requires detailed data and additional modelling complexity.

The **base measure** of the FUA adopts a single network user, travelling alone, with the profile of a “fit and healthy adult”. This user would have an average walking or cycling speed, would not require any specialist equipment, and would be comfortable using any mode or any type of network infrastructure available. This provides a consistent starting point for comparing locations and modes, while future iterations will incorporate additional user profiles to better represent Auckland’s diverse population.

4.2 Travel mode

A comprehensive access measure should account for multiple travel modes, as not everyone can drive or cycle, and many journeys involve a mix of modes. Walking, cycling, micromobility, public transport, and private vehicles all influence how people access destinations. However, modelling all modes requires detailed data and adds complexity. For example, cycling networks vary in quality and completeness, and private vehicle modelling requires assumptions about congestion and parking. To keep the base measure practical and transparent, it focuses on the modes most relevant to equitable access and most feasible to model with available data.

Public transport and walking were prioritised because they are critical for people without access to a car and are central to Auckland’s transport and land use strategies. Public transport journeys almost always include walking, so the walking network is a key component of the analysis. For the base measure, the walking network is drawn from OpenStreetMap and includes slope information to reflect Auckland’s hilly terrain. The public transport network uses the most recent GTFS feed from Auckland Transport, combined with the walking network for access to stops and transfers. These make up of these networks balance realism with simplicity, providing a consistent starting point for comparing locations and modes.

The **base measure** of the FUA assesses the modes of walking and public transport with walking. The networks for each mode are:

- Walking: OSM pedestrian network, including information about slope to inform travel time calculations. The footpath network in OSM is supplemented with roads other than motorways and trunk routes.
- Public transport: most recent available GTFS network from Auckland Transport. No limit on walking distance to public transport from journey start point.

4.3 Time of day

Access varies by time of day, especially for public transport, where service frequency changes between peak and off-peak periods. While walking access remains consistent, public transport availability can significantly affect travel options.

For example, with buses, the morning and afternoon peak each make up approximately 25% of journeys, with 50% of journeys made throughout the rest of the day with reduced frequencies. For trains, this split is closer to 60% of journeys made during both peaks, with approximately 40% of journeys made across the rest of the day, largely in the middle of the day.

For the base measure, the focus is on times that represent the most common and policy-relevant travel patterns.

The **base measure** includes three time periods:

- Morning peak – 7am to 9am – this covers the highest frequency on the public transport network and a busy commute time and ends before public transport services in Auckland begin to reduce frequencies.
- Weekday midday – 11am to 1pm – serves as a proxy for “all day” public transport service for many people who travel for non-work purposes during the day.
- Weekend midday – 11am to 1pm – this covers somewhat reduced service on some public transport routes on weekends compared to weekdays.

These three times represent a combination of the times at which the networks are used in the highest and the lowest concentration.

4.4 Journey start points

People start journeys from many different places—home, work, school, or somewhere in between. Access measures that assume all trips start from home overlook this reality and underrepresent opportunities for trip chaining, such as combining errands on the way home from work. To avoid this bias, the methodology uses a neutral approach that measures access from representative points within each area, rather than from specific homes or workplaces.

For the **base measure**, the origins are centroids, weighted by intersections as a proxy for intensity of land use, but not weighted by jobs or population within each area.

4.5 Summary areas

When measuring access within aggregated summary areas, it's important that these areas are relatively small to ensure the results are representative of the entire zone. Large zones can distort access measurements because parts of the area may be far from the assumed origin point, typically the centroid.

To mitigate this issue, the **base measure** summary area definition is a hexagonal grid, which divides the region into evenly sized hexagons. Each hexagon has a diameter of approximately 200 meters — a distance that corresponds to a walking time of just under two minutes from the outer edge to the centre. This scale ensures that the measured score remains meaningful across the entire summary area.

4.6 Impedance and cost

Measuring access requires a way to represent how hard it is to reach a destination (i.e. the “cost”). While this could include factors like monetary cost, comfort, or reliability, these are difficult to quantify consistently across modes and destinations. Travel time is the most widely used and practical measure because it reflects both distance and network performance, and it can incorporate effects such as slope and public transport frequency.

The impedance used for the **base measure** is travel time. The impacts of network characteristics like topography and public transport frequencies on average travel time are discussed earlier in this appendix.

5 Destinations

This section describes what key destinations/points of interest have been included in the **base measure** for the FUA access score. Factors that influenced this list of destinations include what types of destinations people typically access, data availability about how frequently people access these destinations (from the Household Travel Survey), and data availability for the destinations themselves.

5.1 What do people need to access?

People travel through cities to meet their *needs*. They might need to access childcare or education, purchase a new sweater or a loaf of bread, attend a physiotherapy appointment or visit a lawyer. These needs are different for different people and communities, and they can change throughout the day, during a week, or across a year.

5.2 What is a trip purpose?

The Household Travel Survey (HTS) has collected information on travel, using trip *purpose* as a means of understanding why people travel. The trip purposes[2] collected from respondents are:

- Went home
- Went to work
- Made a trip for work
- Shopping
- Social visit/entertainment
- Completed study/education
- Personal appointments/services e.g. doctor, library, hairdressers, banks, government appointments
- Dropped someone off/picked someone up
- Picked up/dropped off something
- Sport and exercise
- Accompanied someone
- Left the country
- Volunteer work
- Overnight Lodgings

These purposes are umbrella terms that cover multiple trip *needs*, for example the “Personal appointments/services” purpose might cover visiting a library, bank, hairdresser, or government appointment, which are all very different *needs*. The same could be said about retail and grocery shopping, or social visits and entertainment.

> Note: The HTS only asks about trips that are taken, and so doesn’t contain information about travel that would be made if the transport networks were more accessible. This likely biases towards able-bodied people who have access to private vehicles and a means to finance them and doesn’t necessarily reflect the value of access to all people.

5.3 What purposes are considered for urban access?

All trip purposes are important to different people at different points in time. For example, for someone traveling to a medical appointment, it is critical that they can access the medical centre reliably and punctually. According to the HTS, people travel for some purposes more than others. Additionally, some trip purposes are not related to day-to-day (or, more accurately month-to-month)

[2] For more detail on trip purpose definitions, see https://www.transport.govt.nz/area-of-interest/public-transport/new-zealand-household-travel-survey, NZ Household Travel Survey GlossaryError! Reference source not found..

needs, while others are simply too difficult to assign meaningful destinations to (e.g. picking someone up or making a trip for work).

Based on the above criteria, the following the HTS trip purposes are used in the metric: Went to work, Shopping, Social visit/entertainment, Completed study/education, Personal appointments/services, and Sport and exercise[3].

While this list is not exhaustive, and may be expanded over time, it currently covers the majority of travel in the HTS.

5.3.1 Multiple options for a destination type

People often value having multiple options for the same type of destination. For example, being able to choose between several early childhood education centres or supermarkets within a short travel time can provide flexibility and resilience. However, incorporating this into an access measure requires more complex modelling and additional data, such as thresholds for "enough" choice and how to weight multiple destinations.

The **base measure** takes a pragmatic approach by using access to the nearest destination in each category. This method keeps the analysis transparent and computationally efficient while still providing a meaningful indicator of whether important services are within reasonable reach.

5.4 Destination categories

When considering trip *purposes*, and the different *needs* that people making those trips have, it is important to realise that different destinations fulfil different needs. For example, someone wanting to buy a loaf of bread and some toothpaste could visit a dairy, supermarket, or general merchandise store (such as The Warehouse), while someone wanting to do a weekly grocery shop might only make use of a larger supermarket (such as Pak'nSave or Woolworths). A *destination category* is therefore a category of location which fulfils a particular *need*.

Because of this, some less frequent needs are combined into one destination category. While this makes the access measure less precise, it gives a general sense of how well-met people's occasional needs are. Additionally, less common location types and location types with less comprehensive data sources are also combined. Again, this makes the access measure less precise but arguably more accurate overall. The combination of locations gives a holistic measure of how well met more uncommon needs are.

The following section outlines the destination categories, which are largely based on the types of needs identified above, grouped by trip purpose.

As per Section 5.3.1, the methodology for the **base measure** evaluates a score based on the access to the closest location in that destination category (except for jobs and population, which are measured differently). The methodology applies a decay curve to account for the decrease in accessibility as the travel time to the nearest location increases, as described in Section 7.1.

[3] Note that "went home" is not considered a trip purpose here, as this metric is based on "outbound" trips.

5.4.1 Summary of Destination Categories Used in Base Measure

Trip Purpose	Destination Category	Base Measure Approach (weighted by decay curve of section 7 unless otherwise stated)	Data Source
Work - "Went to work" includes travel to main place of work and travel to any other jobs.	Jobs	Access to number of jobs within 45 minutes using linear decay	Stats NZ Business Demography
Education - "Completed study/education" is for travel by students only and includes institutions such as primary and secondary schools, and universities. It also includes travel to preschool education such as kindergarten, playcentre, crèche, kōhanga reo, etc.	Early Childhood Education (ECE)	Access to nearest ECE centre	Auckland Council Data
	Primary schooling (state schools due to universal access)	Access to nearest state primary school	Auckland Council Data
	Intermediate schooling	Access to nearest state intermediate school	Auckland Council Data
	Secondary schooling	Access to nearest state secondary school	Auckland Council Data
	Tertiary Education	Access to nearest tertiary institution	Auckland Council Data
Shopping – "Shopping" is entering any premises that sells goods or hires them for money. The sub-categories were developed based on a high-level consideration of the types of destinations that would be relevant within the HTS records.	Incidental grocery	Access to nearest small grocery outlet	OpenStreetMap (OSM)
	Grocery	Access to nearest full-service supermarket	OpenStreetMap (OSM)
	Pharmacy	Access to nearest pharmacy	Auckland Council Data
	Daily needs	Access to nearest daily needs retailer	OpenStreetMap (OSM)
	Other shops	Access to nearest other shop	OpenStreetMap (OSM)
Social visit/entertainment - includes entertainment in a public or private place for example, eating out at a restaurant or food court, picnics.	Population	Access to population within 45 minutes using linear decay	Census – Population by SA2
	Commercial venues	Access to nearest commercial venue	OpenStreetMap (OSM)
	Community facilities	Access to nearest community facility	Auckland Council Data
	Outdoor public space	Access to nearest public open space	Auckland Unitary Plan zones
Personal appointments - "Personal business" includes stops made to transact personal business where no goods were involved. This includes stops made for medical or dental needs and for dealing with government agencies involved with social welfare.	Primary Medical Care	Access to nearest GP or family clinic	Auckland Council Data
	Emergency Medicine	Access to nearest emergency medical facility	Auckland Council Data
	Secondary Medical Care	Access to nearest specialist medical facility	OpenStreetMap (OSM)
	Other Healthcare	Access to nearest other healthcare provider	OpenStreetMap (OSM)
	Personal care	Access to nearest personal care provider	OpenStreetMap (OSM)
	Administrative Errands	Access to nearest administrative service	OpenStreetMap (OSM)
Sport and exercise - "Sport and exercise"	Outdoor public space	Access to nearest public open space	Auckland Unitary Plan zones

Trip Purpose	Destination Category	Base Measure Approach (weighted by decay curve of section 7 unless otherwise stated)	Data Source
includes active or passive participation in sporting activities and travel for which the main goal is exercise.	Sports facilities	Access to nearest sports facility	OpenStreetMap (OSM)
	Outdoor structured recreation space	Access to nearest structured recreation space	OpenStreetMap (OSM)

5.5 Assigning importance weightings to destination categories

The previous section details access is scored for an individual destination or amenity. However, to build an overall accessibility metric – one that combines the individual access scores for all the categories discussed – the scores for each destination need to be weighted.

Access to different destination categories should be weighted differently, according to how important the need is that the category serves. Importance is subjective, but as this framework aims to take a holistic approach, the method used is based on determining the importance that the population places on various destination categories. The following approaches are based on the available data. Refinement and updates to these methods will be developed as better data becomes available.

The weighting for a trip purpose is based upon the proportion of trips taken for that purpose in the Household Travel Survey. The methodology uses the proportion of trip counts rather than distance or travel time, as the distances and time spent travelling are influenced by current land use, development patterns and transport networks.

Purpose	Percentage
Went to work	20%
Shopping	33%
Social visit/entertainment	24%
Completed study/education	8%
Personal appointments/services	8%
Sport and exercise	7%

Table 1: Adjusted percentage of trips made as a proportion of the selected trip purposes

Table 1 shows the percentage of trips made for each broad purpose defined above, adjusted to exclude trips made for purposes not considered here (see Section 5.3).

Using the percentage of trips as the weightings for broad trip purposes, each destination category within a trip purpose makes up a portion of its “parent” purpose. This approach assumes that the access score for each destination category is already normalised between 0 and 1.

Section 6 outlines methods for estimating and assigning these proportions, while Table 3 afterwards summarises them. Table 3 presents the same weightings from Table 1 on each row labelled ‘Purpose’ and then breaks down the weights into destinations.

6 Destination Weighting Calculations

This section provides the detailed calculations and rationale for the destination weighting calculations within each trip purpose.

6.1 Work

Access to work is measured based only on access to number of jobs, so the weighting for this destination category is 100% of the *Went to work* purpose.

6.2 Education

Access to education can be separated by the kind of education required, as described above. For Early Childhood, Primary, Intermediate and Secondary education the relative proportions of appropriately aged children in Auckland can be used to describe the relative importance of each. Tertiary education, as it is something that nearly anyone can attend, cannot use a population-based metric and therefore participation-rates are the best proxy. Noting that current enrolment may be influenced by inaccessibility, the results can be summarised in the table below.

	Total estimated population requiring access				
Age Group	ECE	Primary	Intermediate	Secondary	Tertiary
0-4	78,195				
5-9		111,550			
10-14		23,330	46,660	46,660	
15-19				65,964	9,782
20-24					47,259
25-29					20,578
30-34					23,437
35-39					21,130
40-44					5,675
45-49					4,938
50-54					5,151
55-59					4,682
60-64					4,251
65-69					3,416
70-74					2,690
75-79					2,057
80-84					1,375
85-89					758
90+					451
Total	78,195	134,880	46,660	112,624	157,631
Weighting	**15%**	**25%**	**9%**	**21%**	**30%**

Table 2: Population requiring access to schools

6.3 Shopping

Access to shopping needs can be assessed in multiple ways. Retail spending proportions were used in place of more detailed transaction event data. Next steps will adjust for subsidisation of medical goods at pharmacies.

6.4 Social visit/entertainment

Social visits and entertainment can take place anywhere there are people. People may choose to visit others in their homes when there are no suitable public spaces or may choose to meet somewhere public if they live too far apart. For this reason, access to places to meet, be entertained, and socialise should all be considered equally, and the weightings for the Destination Categories listed above should reflect that.

The social visit/entertainment trip purpose is attributed 24% of the total access score, so the four Destination Categories (listed in Section 5.4 – population, commercial venues, community facilities, and outdoor public space) would each be 25% of that (6% of the total score). These four categories are weighted equally as an assumption because there is no data to support a different weighting.

6.5 Personal appointments/services

Personal appointments and services can be separated into three broad categories:

- Medical appointments
- Personal care
- Administration

Medical appointments may be used infrequently overall but are vital for a healthy population. In comparison, personal care appointments tend to be more regular. Administration appointments again may be used infrequently but are typically less critical than access to a medical facility. Because of this, access to medical appointments (of various kinds) comprises 50% of the Personal appointments/services trip purpose and the remaining 50% is shared between Personal care and Administration.

Using Ministry of Health data on the number of practitioners in GP clinics, Emergency Rooms, and hospitals, and other healthcare facilities, the Destination Categories listed can be weighted accordingly.

Assuming that the provision of services for personal care and administrative services are adequate across the region, the proportion of locations in OSM with feature tags for the kinds of locations that provide these services can be used to provide a weighting. For example, if there are 2000 personal care destinations in Auckland, and 1000 locations providing Administrative services, then 33% of the Personal appointments score would be for access to personal care locations (66% of 50%).

6.6 Sport and exercise

Much like social visits, people's current use of sport and exercise facilities may be influenced by the prevalence and quality of different amenities. People might visit a gym instead of running on unsafe street environments with narrow footpaths or might visit a park if the nearest gym is too far away, too busy, or too expensive. Because data about the quality and suitability of the road network for exercise is limited, the three Destination Categories listed above are weighted equally. If the Sport and exercise trip purpose is worth 7%, then each of the three Destination Categories should be 33% of that (2.33% of the total score).

Destination	Data Source	Purpose category weighting	Overall weighting
Purpose: Work		**100.00%**	**19.60%**
Jobs	Stats NZ Business Demography	100.00%	19.60%
Purpose: Education		**100.00%**	**8.20%**
ECE	Auckland Council (AC) data[4]	14.75%	1.21%
Primary	AC data[4]	25.45%	2.09%
Intermediate	AC data[4]	8.80%	0.72%
Secondary	AC data[4]	21.25%	1.74%
Tertiary	AC Data[4]	29.74%	2.44%
Purpose: Shopping		**100.00%**	**33.35%**
Incidental grocery	OSM feature tags	Proportion of transaction spend at Incidental grocery locations	
Grocery	OSM feature tags	Proportion of transaction spend at Grocery locations	
Pharmacy	AC data[4]	Proportion of transaction spend at Pharmacies	
Daily needs	OSM feature tags	Proportion of transaction spend at Daily needs locations	
Other Shops	OSM feature tags	Proportion of transaction spend on Other shops locations	
Purpose: Social Visit		**100.00%**	**23.60%**
Population	Census data	25.00%	5.90%
Commercial Venues	OSM	25.00%	5.90%
Community Facility	AC data	25.00%	5.90%
Outdoor Public Space	Auckland Unitary Plan Zoning	25.00%	5.90%

Continued on next page…

Destination	Data Source	Purpose category weighting	Overall weighting
Purpose: Personal Appointments		**100.00%**	**7.84%**
Medical appointments		**50.00% of Personal Appointments**	**3.92%**
Primary medical care	AC Data[4]	Proportion of primary medical care practitioners	
Emergency medical care	AC Data[4]	Proportion of emergency medical care practitioners	
Secondary medical care	OSM[4]	Proportion of secondary medical care practitioners	
Other Healthcare	OSM[4]	Proportion of other medical care practitioners	
Non-medical appointments		**50.00% of Personal Appointments**	**3.92%**
Personal care	OSM	Proportion of feature tags in OSM relating to personal care	
Administrative errands	OSM	Proportion of feature tags in OSM relating to administrative errands	
Purpose: Sport & Exercise		**100.00%**	**7.41%**
Outdoor Public Space	Auckland Unitary Plan Zoning	33.33%	2.47%
Sports Facility	OSM	33.33%	2.47%
Outdoor structured recreation space	OSM	33.33%	2.47%

Table 3: Destination weightings summary, see section above for more detail

[4] Data sources adjusted from originally scoped due to suitability or availability

7 Decay Curves

Decay curves are a key part of developing an access measure. These decay curves recognise that, within the same catchment, an amenity located 5 minutes away is more accessible than the same amenity located 12 minutes away.

7.1 Decay curves for the base measure

The main takeaway from a detailed review of potential options was that there is no agreement in either the literature or practical guidance on the shape and functional form of decay curves.

However, a number of pieces of guidance on accessibility[5,6,7] suggest general forms for accessibility decay curves by mode. An example of this from NZTA Research Report 512 is reprinted as Figure 1 below which shows that accessibility for all modes (except bus) are very similar by travel time.

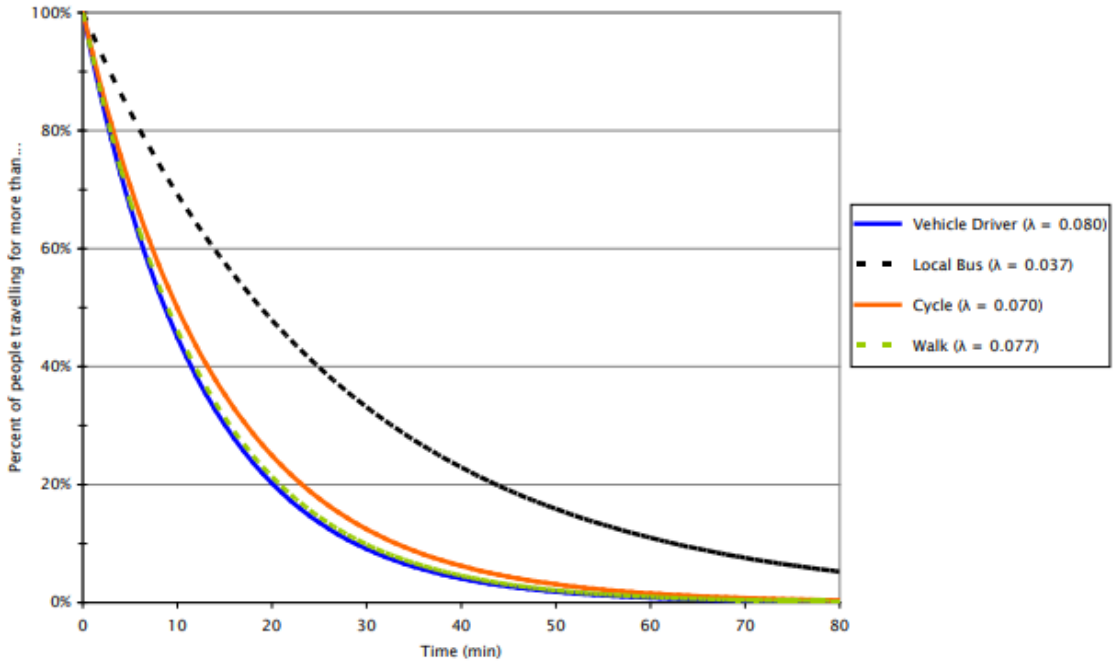

Figure 1: Decay curves by mode of access

In reality, these are not *exactly* decay curves for how accessible amenities are, but rather a measure of what share of people travel '*x*' minutes or more to access something. For instance, using data from the New Zealand Household Travel Survey, and fitting curves to it, estimates that approximately 50% of trips by car, cycling, and walking are less than 10-12 minutes.

This does not mean that something that is 10-12 minutes away from home is half as accessible as something that is zero minutes away from home. Merely, that 100% of people travel zero minutes or more to reach their destination (by definition) and 50% travel 10-12 minutes or more. Nevertheless, these curves are a reasonable starting point for parameterising an accessibility metric.

Consequently, the NZTA Research Report 512 informs the decay curves in the **base measure** because it is NZ-specific research and well-documented. A negative exponential decay function for the decay curves was used, which is of the form:

[5] https://ssti.us/wp-content/uploads/sites/1303/2020/12/Measuring-Accessibility-Final.pdf

[6] https://www.nzta.govt.nz/assets/resources/research/reports/512/docs/512.pdf

[7] https://hdl.handle.net/2123/23733

$$f(t) = e^{-\lambda t}$$

Given a lack of data across all modes and trip purposes, the "All Activities" value for λ for each mode was used, as provided in the Research Report for main urban areas.

These values for λ measure the amenity value of access to key destinations, and are:

- Walking: 0.077
- Cycling: 0.069
- Local bus: 0.037
- Vehicle driver/passenger: 0.08

For access to jobs, the number of jobs accessible within 45 minutes was used as the access measure, with a linear decay curve as NZTA Research Report 512 doesn't provide a non-linear (e.g., exponential) decay curve that could be used to aggregate the amenity value of being able to access many jobs. A linear decay curve was used for access to population for the same reason.

8 Calculating Access Scores

This section is split into two sub-sections: one for how access to key destinations/points of interest is calculated, and for how access to jobs (or population) is calculated.

8.1 Access to destinations

The **base measure** methodology for computing an access (to destinations) score is:

1. Define parameters for what the access score will capture (see Section 4), based on the components outlined in previous sections, such as:
   a. Modes of travel being considered
   b. Time of day analysed
   c. Origin point for analysis
2. Calculate the *amenity value* for level of access to each destination category:
   a. Find the nearest destination within that category and compute the travel time to that destination.
   b. Compute the amenity value of that destination based on the decay curve for that category and travel time, using $f(t) = e^{-\lambda t}$ and the appropriate λ for the selected mode (as defined in Section 7.1). This gives an amenity value between 0 and 1.
3. Compute the total *access score* for the origin point: for each destination category, multiply the amenity value (from Step 2b) by the importance weightings (from Section 6, Table 3). Then sum these together for each destination category to get a single, total access score.

This results in a single access score for a given origin, travel mode, and time of day.

8.2 Access to jobs and population

The **base measure** methodology[8] for computing an access (to jobs/population) score is:

1. Define parameters for what the access score will capture (see Section 4), based on the components outlined in previous sections such as:
   a. Mode of travel
   b. Time of day
   c. Origin point for analysis
2. Compute the number of jobs and population that can be accessed within 45 minutes from the origin point for the given travel mode and time of day, applying a linear decay curve that weights each job/person on the inverse of time (closer is better).
3. To allow an aggregated total *access score* to be computed, normalise the weighted number of jobs/population that can be accessed to between 0 and 1 using the maximum value calculated for jobs/population across all modes.

[8] Note that NZTA Research Report 512 calculates a value of λ for travel to work. However, this is not used for a measure of accessibility for jobs. This is because the travel survey captures how far people travel to the jobs that they have, but not how accessible those jobs are. Unlike services and amenities like parks, grocery stores, etc., people travel past many jobs to arrive at their place of employment. Therefore, jobs within a travel-time catchment are used as described in this section.

9 Representation of Impacts of Slope in Urban Access Tool

The Urban Access Tool visualises and presents the results of the FUA Methodology and aligns to the **base measure** detailed in the previous sections. This section outlines the representation of slope within the 'walking' and 'public transport and walking' modes of the tool and suggests future improvements to the tool in line with the development path of the FUA methodology.

9.1 Naismith Rule

While originally used for hiking on more mountainous terrain, the Naismith Rule is very applicable for urban environments that are significantly hilly like Auckland[9].

The process is to add an extra hour of walking time for every 600 metres of ascent that is encountered in a walk, with a base speed of 5 km/hr (matching to the general walking speed of the Urban Access Tool). It can be added in part based on the change in elevation of each link of the walking network.

It assumes a reasonably fit person, in line with section 4.1.

9.2 Implementation

Due to the nature of the libraries used in the Urban Access Tool, and the extent of estimated refactoring required to modify these libraries, only one weight can be assigned to the bidirectional link between two nodes of the network. Therefore, for the **base measure**, the Naismith rule was used, and the weight between links is representative of the time taken by a reasonably fit person if any slope were uphill. This reflects a weighting of a link based on the slower experience of the two direction of travel. The impact of this approach is that, over long distances, the accumulation of uphill travel times can overestimate the walking time. However, this is not a significant issue for the combination 'public transport and walking' mode where the public transport network (unmodified by slope) covers medium to long distances.

[9] See https://www.tandfonline.com/doi/full/10.1080/02640410600874906

Appendix 3

Context for walkable catchments

1 What is a walkable catchment?

The term “walkable catchment” is only used once in the NPS-UD, and it is not defined. There is also no definition within the Resource Management Act. There is also no definition of walkable catchment in the AUP. Looking to wider academic research there is still no single, universal definition for a walkable catchment.

The following sections examine what is meant by a ‘walkable catchment’ in the context of Policy 3(c) of the NPS-UD.

1.1 ‘Walkable’

The word ‘walkable’ is an adjective meaning a route (or area of a route) that is “suitable or safe for walking” or that a destination is “close enough to be reached by walking”.[1] Distilling it to its core, a basic definition of walkable could be simply that areas or routes are ‘able to be walked’.

The ability to walk somewhere is to be based on the physical characteristics of an area. Waka Kotahi’s pedestrian planning guide defines ‘walkability’ as “the extent to which the built environment is walking friendly”[2]. Auckland Transport’s Urban Street and Road design guide goes further and states that walkability is the “extent to which the built environment allows people to walk to get to everyday destinations for work, shopping, education, and recreation. Walkability can be affected by street connectivity, mix of land uses, destinations and pedestrian infrastructure.”

The ideal physical characteristics of a walkable route or area are outlined below [3] (which are broad and often overlap):

- Publicly accessible
  The land on which the walking facility (e.g. footpath) is on must be publicly owned or at least have legal access that enables the public to walk on it. This would generally cover nearly all of Auckland’s roads, footpaths, parks, walking tracks, plazas/squares etc. The assumption is that private land cannot be accessed by the general public.

- Safe
  Public walking facilities should be safe as practicable to use at all times of day (e.g. lighting, CPTED[4]) and for people to feel safe to spend time in. A perception of safety is greater when there are “eyes on the street” or the natural surveillance that occurs in neighbourhoods where people are frequently coming and going at all hours of the day.

- Inclusive
  All walking environments should adhere to the principles of inclusive design by ensuring that they are accessible to, and usable by, as many people as reasonably

[1] Oxford University Press, The Oxford English Dictionary, 2022.
[2] Waka Kotahi (2021) *Draft Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance/glossary-2/
[3] Based on Waka Kotahi (2021) *Draft Pedestrian Network Guidance*. https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance/planning/walkability/pedestrian-network-characteristics/
[4] Crime Prevention Through Environmental Design

possible. Safe, obvious, and step-free routes are a priority on the most important pedestrian routes to ensure universal access is addressed.

- Comfortable
  Walking areas should allow unhindered movement for pedestrians by providing sufficient space, even surfaces and gentle gradients. Where topography is steep or there are steps it can be anticipated that walking speeds will slow or even put people off attempting to walk the route at all.

- Direct
  Facilities should be positioned to provide convenient links between major walking trip attractors, without impediments from obstacles or other road users. There should be measures taken to resolve severance issues (significant barriers that hinder of prevent walking access such as busy arterial roads, motorways, railway lines, rivers, or streams). Such measures could include dedicated pedestrian crossings or bridges.

- Legible
  Features should be consistent and easy to understand for all pedestrians to know intuitively how to navigate a space (way-finding).

- Connected
  There should be a connected network of walking facilities (e.g. footpaths, recreation tracks, pedestrian rights of way, overbridges/underpasses) that have a high density of route options to connect pedestrians to the places they wish to reach.

- Attractive
  Walking environments should be inviting for pedestrians to pass through and/or spend time in. This can mean low levels of traffic, noise and pollution. There should be places to shelter, play, or rest (e.g. covered walkways shaded from hot sun and protected from rain (e.g. verandahs), benches, pedestrian-oriented street lights, and public toilets). The environment should be clean and visually appealing (e.g. street trees, open space, attractive buildings, small block sizes) and the type and mix of land uses along a route should enhance the pedestrian experience.

In addition to the physical environment, how walkable an area is will also be influenced by how favourably walking compares to other transport modes in terms of time, financial costs, and availability including:

- Availability and cost of petrol and car parking.
- Any alternative efficient transport options available (e.g. public transport).
- Shortcuts, such as pedestrian paths, bridges and entranceways, which reduce the distances that pedestrians must travel to reach destinations and give pedestrians an advantage over other transport modes.

Furthermore, how walkable an area is can be influenced by other factors such as the:

- Age/mobility of the walker.
- Income level of the walker.
- Reason for walking (e.g. is the destination a workplace, to have a meal, or for purely recreational purposes e.g. walking the dog).
- Climate, season, and weather.

Finally, it is worth clarifying that while cycling and other forms of micro-mobility are often considered as part of the package of 'active transport', the NPS-UD specifically refers to 'walkable catchments'. Therefore, the catchments must be measured based on their ability to be walked rather than cycled, scootered, skateboarded etc.

1.2 'Catchment'

In plain English a 'catchment' is generally defined as a geographic area or extent served by some sort of facility (e.g. a school or hospital)[5].

One of the most common types of catchments referred to in geography is a water catchment; an area that captures rainfall which then drains into a watercourse. Such a catchment extends to the greatest distance that the rainfall will travel from to enter the watercourse.

In the context of Policy 3(c) of the NPS-UD a catchment is served by either a centre or a rapid transit station and the extent of the catchment is determined by whether it is 'walkable'.

1.3 A 'walkable catchment'

In determining a walkable catchment for Policy 3(c) of the NPS-UD there are two main possible approaches:

- A catchment which extends as far as all existing or possible customers /passengers will walk:

  This approach aligns with the common use of the concept of catchments in geography. For instance, as a water catchment covers the entire area from which water flows into a river or lake, likewise when considering transport, the catchment of a centre or station could be considered to be the entire extent of the area from which customers or passengers are willing to walk.

- A catchment focused on the area that a certain proportion of the existing or possible customers/passengers will walk:

  This approach differs from the first in that it recognises that there will always be outliers who are not representative of the general population and seeks to focus on a more significant proportion of the population (e.g. an 'average' person or 'most people').

Applying the first approach to 'catchments' (like that used for water catchments) would result in walkable catchments extending the greatest distance that anyone would walk to access a

[5] https://dictionary.cambridge.org/dictionary/english/catchment-area

centre or station. This approach can make sense in some circumstances, where there is a need to understand the full extent that all people will walk.

However, in the context of the NPS-UD it is not a sensible planning approach, as it could result in an intensification approach around centres and stations for thousands of people based on the habits of the outliers. The purpose of identifying walkable catchments in the NPS-UD is to delineate the extent of where to enable greater building heights and density of urban form. This is not to say that some people cannot or will not walk further than the 'average' walkable catchment area to access a centre or rapid transit stop.

The second approach outlined above is the common method for measuring walkable catchments and it aligns better with NPS-UD Objective 1:

> "Objective 1: New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future."

Given the focus of this objective on ***"all people"*** it is considered appropriate to adopt a position that considers walkable catchments from the perspective of the average person rather than from the perspective of only the most fit, mobile, and able people.

In addition, the MfE guidance on implementing the NPS-UD specifically states that a walkable catchment is "the area that an ***average*** person could walk from a specific point to get to multiple destinations"[6]

Therefore, under Policy 3(c) of the NPS-UD it is proposed to base the walkable catchments in Auckland on the area the average person could walk to access a centre, or a rapid transit stop.

[6] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5

Appendix 4

Modifying factors for walkable catchments - guidelines

NPS-UD Walkable Catchment Assessment Guidelines

1. Overview

This section provides guidelines for refining the 1,200m and 800m walkable catchment boundaries, by including or removing parcels or areas to be within or outside the initial GIS boundary proposals (based on the application of Option 3 – explained in the main section of this s32 report).

The guidelines are to be first considered individually to the location of catchment boundaries and then a position arrived at that considers and weighs up the impact of the guidelines collectively. Guidelines are not weighted or prioritised – it is the task of the assessor to apply judgement to consideration of each guideline and then making a balanced overall judgement as to changes required to the initial boundary proposed, along each walking route.

The guidelines include various metrics or figures. The purpose of these figures is to, first, frame the extent of the planner's scope in amending the catchment areas with respect to each of guideline. Secondly, the metrics included are designed to assist planners in exercising their discretion when implementing changes through providing examples of the anticipated impacts of route topography and pedestrian crossing points. These metrics are designed to provide consistency in the extent of catchment change implemented by each planner and a degree of objectivity in some case to the impact particular route facts have on the catchment.

It is up to the judgement of the assessor, both in considering the guidelines individually and then collectively, to arrive at an overall position on whether a catchment boundary is retained, moved inward or pushed outward.

The walkable catchments are to be reviewed as a set by a single team to provide consistency and perform a quality assurance function including consideration of public feedback received during the preliminary consultation phase.

2. Context of the default walkable catchments generated by the GIS viewer

The guidelines detailed below provided planner discretion to alter the auto-generated catchments produced by the GIS viewer. There were key 3 parts to the GIS viewer analysis:

- the distance network lines which notated the extent of the 800m or 1,200m catchment distances;
- a raw catchment area based on the extent of the network lines; and
- a refined catchment which snapped the catchment area along property boundaries which formed the interim determination of the catchment which was subsequently refined per the edge guidelines.

Consequently, the GIS viewer automatically included or excluded properties within each walkable catchment. The guidelines discussed in the chapter allowed for planners to amend the catchment assumptions of the GIS viewer to ameliorate specific outcomes.

3. Approach to the task

Even though the task is the consideration of retaining or moving the proposed catchment boundary as a result of applying the guidelines, the assessor needs to consider the nature and qualities of the whole walking route from the edge of the centre or the rapid transit network station entrance, not just the last 100-200 metres where any change in boundary location might be recommended.

The guidelines are split into two categories – edge and route. The route guidelines govern the consideration of elements along the route which impact the distance an average person can walk within the specified time. The edge guidelines seek to minimise adverse interface effects created by the boundary of the walkable catchment and to create logical and consistent types of boundaries across all Auckland's walkable catchments.

In testing the approach, it was found to be helpful to start with a review of the overall proposed catchment to understand where the boundary has been initially drawn and what some overall responses might be, as a guide to the subsequent more detailed work. Once this overview assessment has been done, and identification of where possible boundary changes are likely needed, the work can commence on adjustments using the GIS viewer for this purpose.

4. Guidelines

The guidelines are to be read together. The guidelines do not recommend any particular guideline to take precedence over another. Where there is a conflict between two or more guidelines, the planner has the discretion to choose which guideline (or guidelines) will apply in that instance.

The Route guidelines consider elements along the walked route which may impact the distance an average person can walk within the time specified for that catchment (i.e. 1,200m for catchments around Business – City Centre Zones, and 800m for catchments around Business – Metropolitan Centre Zones and around rapid transport stations). Route modifying factors reduce the walkable catchment distance and area with respect to the impact of topography and arterial road crossing points on route walkability. The Edge guidelines amend walkable catchments in order to minimise potential adverse interface and boundary effects between land within and land outside the walkable catchment and to create logical and consistent edges across all walkable catchments.

1. Route guidelines

1.1. Topography

Where the topography of the route(s) is flat or gently undulating, do not adjust the boundary. Reduce the walkable catchment area relative to the route's gradient and length where the gradient is of a steepness equal to or greater than 8% in incline or decline. The reduction of the walkable catchment must be relative to the averaged walking speed in both directions along that portion of the route (i.e. when walking both up and down the slope).

The GIS viewer for determining the boundaries of the walkable catchments notates the route gradients using a traffic light colour code system along the walkable catchment route network lines. Green denotes a gradient of between 0% and 8%, orange denotes a gradient of between 8% and 12%, and red a gradient of greater than 12%. The walkable catchment route can be reduced by the following distances per 100m of gradient as a maximum:

- Green lines (0-8%): No change
- Orange lines (8-12%): 20m
- Red lines (12%+): 30m

1.2. Arterial road crossing(s)

Walkable catchment distances can be reduced by 60m (45 seconds) for each primary arterial road crossing along a given route, and by 40m (30 seconds) for each secondary arterial road crossing along a given route. There is scope to reduce (or disregard) the distance based on the specific factors of the road (e.g. the width or nature of the pedestrian crossing). No waiting time shall be considered with regard to non-arterial roads.

The arterial roads are notated in the GIS viewer as dark blue for primary arterial roads, and light blue for secondary arterial roads. The ranking and designation of arterial roads is derived from Auckland Transport's Future Connect viewer.

Auckland's primary (dark blue) and secondary (light blue) arterial roads are shown on the GIS viewer.

2. Edge guidelines

The edges of a walkable catchment can be adjusted (in or out) by around 100-150m (generally 200m maximum) to address the guidelines that follow.

The full allowance of extending the walkable catchment by 200m should be used sparingly with catchment changes of less than 100m preferable. The 200m extension should be reserved for extreme cases.

2.1. Edge – Walkable catchment boundaries with respect to property boundaries

The guideline applies in two scenarios: first, the consideration of whether the walkable catchment boundary ought to bisect through a property; and secondly, where a property has been incorrectly omitted from the GIS model's raw catchment assessment.

1. The consideration of whether the walkable catchment boundary ought to bisect through a property

The walkable catchment should not bisect a property unless the property is large or awkwardly shaped and will distort the shape of the walkable catchment in that location if that property is wholly included or excluded. In this case, the walkable catchment should traverse through the site along a suitable and logical delineation of the property which maintains the natural shape of the wider walkable catchment.

2. Where a property has been incorrectly omitted from the GIS model's raw catchment assessment

   The bespoke GIS viewer autogenerates a raw catchment based on whether the centroid of a property is located within the area bounded by the indicative walkable routes. There are cases where a property should be part of the catchment but has been omitted due to the model's 'centroid' methodology. Conversely, a property may have been included in the autogenerated catchment where it does not have legal public access to the walkable catchment. Where a property has incorrectly by omitted by the GIS viewer, include them in the walkable catchment. Where a property has been incorrectly included in the walkable catchment, exclude them.

2.2. Align the walkable catchment along physical boundaries including with roads and waterbodies

Extend or reduce the walkable catchment boundary to align with physical boundaries where this does not result in a significant deviation of the catchment from the walkable distance. Physical boundaries include roads and public spaces, coastlines, and waterbodies such as lakes and rivers. The purpose of this guideline is to use strong and legible boundaries where possible and to limit the transitional effects along the boundary between land within and outside of the walkable catchment.

2.3. Align to include or exclude whole blocks within the walkable catchment

If the walkable catchment is to include or exclude the majority of a block but does not include a small area of the block, extend or reduce the walkable catchment to apply a consistent response to the whole of the block.

2.4. Limiting zoning transitions

Direct interface between the edge of the walkable catchment and adjacent lower intensity zoned sites should be minimised where possible to reduce effects on residential amenity through adding to or removing from areas of the walkable catchment. The following spatial planning outcomes should be prevented where possible:

- Orphaned zoning (i.e. spot zoning where a site or small collection of sites have a different zone from the neighbouring sites), and
- Zone bulges or depressions (i.e. bulges in the shape of the zone area which can create areas enclosed by a WC edge).

5. Approach to topography

A vast variety of modelling approaches to the impact of gradient on walking speed have been used by different researchers dating as far back as the 1890s. Given adequate time and resource, the impact of topography on walking speed (and consequently on the catchment areas) could be incorporated directly into the GIS generated catchments through the inclusion of an accurate walking speed model. Due to time and resources constraints, the GIS viewer generated catchments in PC120 do not consider the impact of gradient. Instead, the topography route guideline provides discretion for planners to reduce the extent of a catchment where all (or parts) of the route gradient is steeper than 8%.

The GIS viewer illustrated the gradient along each pedestrian routes through colour coding which corresponded to different gradient thresholds. A green route line indicated a gradient of between 0% - 8%; an orange route line indicated a gradient between 8 – 12%; and red colour indicated a gradient above 12%. To assist planners in determining the potential impact of the gradient on the walkable catchment distance, the guideline listed the maximum expected catchment reductions for each gradient threshold over 100m which could be pro rata applied to the observed stretches of gradient.

The maximum expected catchment reduction figures were generated using a Lorenz model function. Campbell, Dennison and Butler[1] (2019) provide a comparison between six well known pedestrian walking speed modelling approaches in the literature and test the accuracy of these models against real world GPS data. Campbell et al. found the most robust model over the range of speeds and gradients analysed was the Lorenz model. The authors of this research recommend that the model be populated with coefficients specific to the population demographics and contours of the location to be analysed. Given constraints on Auckland Council's time to prepare this plan change, Auckland specific coefficients have not been established. Auckland Council have instead adopted the figures used by Wellington City Council for inform their IPI walkable catchment plan change.

Wellington City Council established three walking speeds based off an analysis of fitness tracker data specific to Wellington, and their own testing and scientific research on walking speeds. A Lorentz function was used to extrapolate speeds at different gradients. Wellington City Council generated three fitness profiles for their model which were described as: high, medium, and low. Due to time constraints in preparing PC120, Auckland Council has chosen to align the Lorenz function to the default walking speed along flat ground of 1.5 m / s by averaging the fast and medium speed profiles.

[1] Campbell, M. J., Dennison, P. E., Butler, B. W., & Page, W. G. 2019. "Using crowdsourced fitness tracker data to model the relationship between slope and travel rates." Applied Geography 106: 93–107. doi:https://doi.org/10.1016/j.apgeog.2019.03.008.

$$v_{Lorentz} = c\left(\frac{1}{\pi b\left[1+\left(\frac{\theta-a}{b}\right)^2\right]}\right) + d + e\theta$$

Walking travel mode	a	b	c	d	e
Low	-3	17.43432277	30.242975	0.402487708	-0.00293
Moderate	-2.4	29.90745947	71.3670039	0.351300386	-0.00424
High	-2.4	29.87685812	84.778458	0.4548466	-0.00529

Figure 2. Lorentz function and variable table used in the WCC walking network model; including Low, Moderate, and High walking travel modes.[3] Use the variables of each travel mode in the Lorentz function to calculate speeds for low, moderate, and high walking speed modes.

Figure 1 Excerpt from Wellington City Spatial Plan & Draft District Plan: Johnsonville walkable catchment testing, dated 2nd December 2021.

$$((c) * (1/(\pi * (b) * (1 + ((\theta - (a))/(b))\text{^}(2)\ ))) + (d) + (e) * \theta$$

Figure 2 The Lorentz function reformatted for Microsoft Excel.

The impact of topography on the walkable catchment was applied by way of planner discretion. The route reduction figures have been included to assist planners in making an informed decision on the likely impact of the steep gradient. It was considered the inclusion of some contextualising figures would assist planners in making fair and informed decisions.

All mathematic models of the impact of gradient on walking speed indicate a continuous change in walking speed rather than significant changes occurring at specific gradient thresholds. However, the chosen methodology required categorising the continuous gradient data into discrete categories. It is acknowledged that choosing any three threshold categories results in an approximation of the impacts of gradient on walking distance.

Two threshold gradients were selected: 8% and 12%. All topographical changes below the 8% threshold were ignored in the guideline, while those of 8% and above would allow the planner discretion to reduce the catchment. These threshold figures were chosen after reviewing the Auckland and national guidance on road and footpath design, and thresholds used in walking speed scientific studies.

Material from Auckland Transport[2] on road and footpath design seeks the design of new roads and footpaths to have a maximum gradient of 8%, as steeper gradients can impact the ability for all users to access these routes. This position was reiterated by Waka Kotahi in their design guidance of footpaths where footpath gradients over 8% should be “over a

[2] Auckland Transport, Footpaths and the Public Realm, Engineering Design Code, (/https://at.govt.nz/media/1982225/engineering-design-code-footpaths-and-the-public-realm_compressed.pdf) section 3.4 Footpath gradients outlines the maximum longitudinal grade for new footpaths at 8%.

distance no greater than 9m.[3]" The 8% threshold is also supported by a number of studies[4] including the research by Aghabayk et al[5] (2020) which found that gradients between -6% and 6% resulted in a negligible impact on the walking speed of those participating in the study. Crucially, pedestrian walking speed increases when walking downhill at mild gradients[6] meaning that once walking speed has been averaged for walking up and down a mild gradient, the impact of gradients less than 8% is likely to be minimal.

Auckland Transport's Design Manual for Road and footpaths[7] provides a logical upper threshold based on the gradient of 12.5% at which point, roads can no longer be vested, and footpaths requires a departure from the standard process. A 12.5% threshold was also mentioned in the Local Government Act 1974, s329 which requires that no road can be constructed by Council with any part steeper than 12.5%. In the findings from Aghabayk et al (2020), the authors found that a gradient of 12% resulted in significant deviations in pedestrian speed.

6. Approach to the guideline considering arterial road crossings

Future Connect by Auckland Transport[8] general traffic maps were used to categorise primary and secondary arterials. Conservative waiting times of 45 and 30 seconds were chosen to reflect the reality that wait time for pedestrians along arterial roads could improve in the future as pedestrian network infrastructure is upgraded.

No wait times were considered for non-arterial roads. Pedestrian wait times at road crossings depend on a host of factors including the time of day, whether the pedestrian crossing is at traffic lights or a zebra crossing. Ideally each road crossing would have been individually assessed. However, given time and cost constraints, an approximation has been used.

7. Why were some elements which impact walkability omitted from the assessment?

The guidelines do not allow planners to take into account all factors which can impact walkability. I discuss the rationale for excluding the most notable omissions below.

- The actual or perceived safety along a pedestrian route is recognised in the literature to impact the propensity for some people to walk that route. Consideration of route safety did not form part of the guidelines for three reasons. First, the actual and perceived safety of the environment along a pedestrian route can change over time

[3] NZ Transport Agency Waka Kotahi, 3.Design – 3.3 Paths, pedestrian network guidance, page 18.
[4] Xie, Wei and Lee, Eric Wai Ming and Li, Tao and Jiang, Nan and Ma, Yi, Pedestrian Dynamics on Slopes: Empirical Analysis of Level, Uphill, and Downhill Walking. Available at SSRN: https://ssrn.com/abstract=4548545 or http://dx.doi.org/10.2139/ssrn.4548545
[5] Kayvan Aghabayk, Nasser Parishad, Nirajan Shiwakoti, Investigation on the impact of walkways slope and pedestrians physical characteristics on pedestrians normal walking and jogging speeds, Safety Science, Volume 133, 2021, https://doi.org/10.1016/j.ssci.2020.105012.
[6] As found in various studies including Aghabayk et al (2020), and W. Xie et al (2023).
[7] Auckland Transport's "Footpaths and the public realm" from the Transport Design Manual, Engineering Design Code.
[8] Auckland Transport, Future Connect, Strategic General Traffic Network, https://at.govt.nz/about-us/transport-plans-strategies/future-connect-auckland-transports-network-plan

meaning the inclusion of safety within an assessment of walkable catchments could become outdated over time.
Secondly, the pedestrian routes used in the PC120 assessment are public roads or public pedestrian access ways. There is a presumption that given these are public footpaths, they are of adequate safety for pedestrians as determined by Auckland Transport.
Lastly, an assessment of perceived and actual safety of a pedestrian route requires a comprehensive Crime Prevention Through Environment Design audit of the route. The resources and time to undertake an assessment of all pedestrian routes across the city was not available to Auckland. A less comprehensive assessment of safety could allow for inconsistency or subjectivity in the methodology.

- The attractiveness or amenity qualities of a route may also impact someone's likelihood of walking. It was considered that an assessment of the attractiveness or amenity of a route would be too subjective and difficult to apply consistently.

8. The application of the guidelines in practice

- The walkable catchments were generally assessed individually. Accordingly, it was possible for a property to be included within one walkable catchment and excluded in another. Where there were significant areas of overlap between the catchments, consideration was given to avoiding an awkward interface between the two catchments.
- Where a rapid transit stop catchment was contained entirely within a Business - Metropolitan Centre Zone catchment, it was considered not necessary to refine the rapid transit stop catchment in great detail. An example of this is the Henderson Train Station walkable catchment that is entirely encompassed by the Henderson Metropolitan Centre walkable catchment.
- Some greenfield rapid transit stops have very few surrounding roads from which to establish a realistic walkable catchment. In these cases, the catchment was established using an approximation of the future roading/pedestrian network based on roads from precinct plans and recent resource consents (see **Appendix 5** for further information).

Appendix 5

Context for determining the size of walkable catchments

1 Literature review (international and local)

There has been a large amount of research into walkable catchments both internationally and in New Zealand. It can be difficult to synthesise all the studies into a succinct set of principles as each study has its own distinct circumstances which are not always able to be replicated elsewhere. In addition, sometimes there can be contrary conclusions between different studies.

This section 32 analysis has reviewed an extensive range of research on walkable catchments. However, it is important to acknowledge that this has not been an exhaustive review of all literature on walkable catchments. A short summary of the studies, articles, and books that have been reviewed is included in **Appendix 20**.

1.1 Walking trips to rapid transit - international research

There have been many studies undertaken internationally looking at the pedestrian catchments for public transport. These studies show that individuals are willing to walk to and from public transport, but for limited distances.

The various studies reviewed mostly conclude that the average distances walked to or from public transport stops range from around 400m to around 800m. However, some studies note that the distance should be "at least" 800m[1] while others note that the 85th percentile walking distance for public transport can be around 1,300m.[2]

When looking at studies in this area it is important to separate two different aspects of them: the distance **a** person will walk to access public transport services and the distance **most** people will walk to access them. Of more relevance to the implementation of Policy 3 of the NPS-UD is the distance most people will walk.[3]

There is a general agreement across the various studies that the proportion of people who walk to or from public transport decreases the further away from the station or stop they are. This is referred to as a 'distance-decay' effect and there is a strong distance-decay relationship for walking trips to all destinations.[4] Distance decay is used in geography to mathematically describe how a given phenomenon varies as a function of distance. In this case, the longer the distance to the destination, the less likely people are to travel to it by walking.

While there is no universal agreement on the rate of decrease, most studies demonstrate a pattern of distance-decay that starts with a relatively high proportion of patrons from close to the station, a steep drop-off as the distance increases and then a long tail, similar to that shown below in Figure 1.

[1] Agrawal, W. A., Schlossberg, M., & Irvin, K. (2008). *How Far, by Which Route and Why? A Spatial Analysis of Pedestrian Preference*, Journal of Urban Design, 13:1, 81-98. 10.1080/13574800701804074

[2] Burke, M., & Brown, A. (2007). *Distances People Walk for Transport.* Road & Transport Research, 16(3), 16–29. https://search.informit.org/doi/10.3316/informit.880016006301032 and El-Geneidy, A., Grimsrud, M., Rania, W., Tétreault, P., & Surprenant-Legault, J. (2014). *New evidence on walking distances to transit stops: Identifying redundancies and gaps using variable service areas*. Transportation (41), 193-210. 10.1007/s11116-013-9508-z.

[3] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5

[4] Millward, H., Spinney, J., & Scott, D. (2013). *Active-transport walking behaviour: destinations, durations, distances.* Journal of Transport Geography, 28, 101-110. https://doi.org/10.1016/j.jtrangeo.2012.11.012.

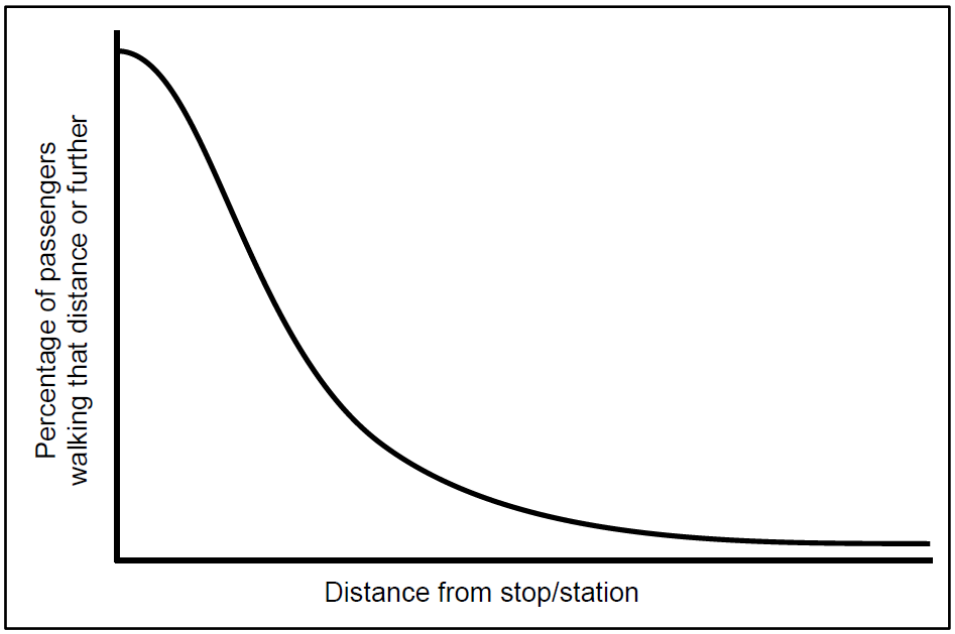

Figure 1: Graph illustrating the distance-decay relationship[5]

1.1.1 Key trends

One meta-analysis of other studies found that a 10% decrease in a household's distance to transit corresponded with a 3% increase in transit use. One specific study in California found that those living within 800m of a transit station were four times more likely to use transit than others living between 800m and 4,800m away.[6]

A study in Canada interviewed 1,800 light rail users and found a marked difference is the distances walked to suburban stations (649m) to central city stations (326m). The shorter walk in the central city is likely to reflect shorter distances between pedestrians' points of origin and the stations. This is likely due to the array of transport options in the city centre, compared to the relatively scarce options in the suburbs (requiring a further walk on average to get to a light rail hub).[7]

A number of studies found that people are prepared to walk further to access train services compared to bus services[8] and/or those public transport services with a shorter wait time (i.e. higher frequencies).[9]

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[5] Cribbens, Alastair. Wrenn, Steve. Winter, Liam. *Joint statement of evidence on behalf of Auckland Council (Auckland Transport) for Topic 080 Rezoning and Precincts (General) and Topic 081 Rezoning and Precincts (Geographical Areas) before the Auckland Unitary Plan Independent Hearings Panel.* 3 December 2015.
[6] Ewing, R., & Cervero, R. (2010). *Travel and the Built Environment.* Journal of the American Planning Association, 76:3, 265-294. 10.1080/01944361003766766
[7] O'Sullivan, S., & Morrall, J. (1996). *Walking Distances to and from Light-Rail Transit Stations.* Transportation Research Record, 1538(1). 19–26. https://doi.org/10.1177/0361198196153800103
[8] Alshalalfah, B. & Shalaby, Amer. (2007). *Case Study: Relationship of Walk Access Distance to Transit with Service, Travel, and Personal Characteristics.* Journal of Urban Planning and Development. 133(2). 10.1061/(ASCE)0733-9488(2007)133:2(114) and Daniels, R., & Mulley, C. (2013). *Explaining walking distance to public transport: The dominance of public transport supply.* Journal of Transport and Land Use, 6(2), 5–20. http://www.jstor.org/stable/26202654
[9] El-Geneidy, A., Grimsrud, M., Rania, W., Tétreault, P., & Surprenant-Legault, J. (2014). *New evidence on walking distances to transit stops: Identifying redundancies and gaps using variable service areas.* Transportation (41), 193-210. 10.1007/s11116-013-9508-z.

It was also found that higher proportions of walking trips for public transport are made in more dense, mixed use areas and that people in these areas were prepared to accept further walking distances to and from public transport (than people in other areas).[10]

One study found that people walked faster for 'active-transport' walking trips as opposed to walking for leisure. Active-transport walks were also moderately faster than recreational walking, and typically shorter in time and duration.[11]

1.2 Walking trips to rapid transit - New Zealand research

There have been a number of New Zealand studies which have looked at walking trips to public transport. Some of these are specific to the Auckland context. Key findings are summarised below.

One of the most often cited studies in relation to walkable catchments and the NPS-UD was conducted in 2013 by Auckland Council.[12] It looked at how far people would walk to 12 railway stations and five busway stations. The study aimed to test the findings from a 2010 survey that found that the median walking distance to Papatoetoe train station was 1,200m – further than the 800m radius typically assumed for walkable catchments. A further survey in 2012 produced similar findings for New Lynn, Glenn Innes, and Mt Albert train stations.

The 2013 study extended the research to a further 12 train stations[13] and five Northern Busway stations.[14] Again, the aim was to investigate whether an 800m radius accurately represented the walking distance of passengers to the respective stations. The results of the surveys were as follows:

For the 12 train stations:

- At four stations: over 50% of respondents walked further than 800m
- At six stations: over 15% of respondents walked further than 1,500m
- Walking was the most common form of arrival at nine out of 12 stations. Ellerslie had the highest (73%); followed by Newmarket (69%). Manurewa had the lowest (42%)
- There was significant variation in median walking distances to each station:
    - Papakura had the highest (971m); followed by Panmure (917m).
    - Newmarket had the lowest (446m); followed by Ellerslie (569m).

For the 5 bus stations:

- At four of five stations, 50% of respondents walked further than 800m (the exception was Akoranga).
- There was even greater variation in median walking distances to each station:
    - Albany had the highest median walking distance (2,727m).

[10] Cervero, R., Round, A., Goldman, T., & Wu, K. (1995). *Rail Access Modes and Catchment Areas for the BART System.* UC Berkley Institute of Urban and Regional Development. https://escholarship.org/uc/item/0m92j0kr
[11] Millward, H., Spinney, J., & Scott, D. (2013). *Active-transport walking behaviour: destinations, durations, distances.* Journal of Transport Geography, 28, 101-110. https://doi.org/10.1016/j.jtrangeo.2012.11.012.
[12] Wilson, L (2013). *Walkable catchments analysis at Auckland train and Northern Busway stations – 2013*. Auckland Council technical report, TR2013/014
[13] Manurewa, Otahuhu. Panmure, Papakura, Newmarket, Henderson, Onehunga, Pukekohe, Glen Eden, Meadowbank, Sturges Road, Ellerslie
[14] Albany, Constellation, Sunnynook, Smales Farm, Akoranga

- Smales Farm had the lowest (588m); followed by Akoranga (590m).

Overall, the study found that:

- Some people were prepared to walk considerable distances to the stations (over 4km in some cases).
- The median distance walked to these stations differed considerably between stations (446m – 2,727m).
- Most of the stations recorded a median walking distance in the range of 550m-950m.

The study concluded that the 800m catchment radius is representative of some stations, but for others, it is lower than the actual walking distance people are willing to walk.

While this study is useful in understanding the distance some passengers will walk to rapid transit, caution must be used to avoid reading too much into the results. The survey does not take into account the surrounding level of development, population density, land uses, or distance from the city centre.

For example, Newmarket is a densely populated area with high employment and many transport options so you would expect the average walking distance to the train station to be relatively low (446m). On the other hand, the Albany busway station (in 2013) was an isolated piece of infrastructure with a large amount of vacant land around it and a motorway separating it from residential areas to the east. Anyone walking to that station would necessarily have to walk long distances on average (2,727m).

In addition, while a survey such as this can tell you how far a person walked to access public transport, it does not tell you how many people did not access public transport because the walk was too far.

Another study by researchers at AUT[15], which looked at bus stops rather than Rapid Transit Network ('**RTN**') stations, investigated the relationships between car parking, public transport, travel behaviours, and health outcomes for adults traveling to a worksite. This study found that respondents with a bus stop within 200m of their residence, or who perceived public transport as being accessible, were more likely to commute to work by public transport. Those who lived further away or did not perceive it accessible demonstrated no change in behaviour.

In 2018 Auckland Council's Chief Economist Unit released an insights paper looking at rapid transit access and its impact on property values[16]. This study found that on the isthmus there was a house price premium out to 500m from train stations. The highest impact on property values was about 260m from the stations. This property value premium was about 19% over a home more than 500m away from a station. There was no property value premium found outside of the isthmus, and within the isthmus the premium was more evident on the eastern than western side of the isthmus.

[15] Badland H, Garrett N & Scofield G (2010) *How Does Car Parking Availability and Public Transport Accessibility Influence Work-Related Travel Behaviours?* Sustainability 2010, 2, 576-590
[16] Martin, S., & Norman, D., *How rapid transit access adds to property values*, Auckland Council CEU Insights paper (2018)

Waka Kotahi released a research paper[17] in 2007 which looked into the factors which determine people's decision to walk or drive to public transport. This study, looking at park and ride sites in Auckland and Wellington, surveyed people who travelled under 1km to the station by foot or car with a focus on factors influencing the decision to walk or drive. Participants in this study perceived 820m to be a reasonable walking distance to access a public transport station.

Another Waka Kotahi study drew on the Ministry of Transport's New Zealand Household Travel Survey. The median distance of walks to bus services was 200m; and 75% of these trips were under 500m.[18] This is lower than the typical 400-800m distances reported internationally.

However, figures for walking to rail services were notably higher and were aligned closer to international examples. The median distance walked for access to rail stations was over 1km (mean distance: 1.13km).[19] This indicated that individuals were willing to walk longer distances to faster or more frequent public transport modes (such as rail or ferry services) – to which further walking distances by individuals were observed.[20] This is consistent with international research.

In Auckland, the preference for rail and for frequent services are considered to play out fairly evenly across the rapid transit network. The bus services on Auckland's bus rapid transit are substantially more frequent than rail services and as such are considered to have the same level of attractiveness. Similar to rail services, the bus rapid transit service is provided on a dedicated route, largely separated from general traffic. These factors mean it is appropriate to apply the same distances (and the same edge and route guidelines in **Appendix 4**) to walkable catchments for rail RTN stations and bus RTN stations.

1.3 Walking trips to city and metropolitan centres - international research

Studies looking at walkable catchments of major centres are not as common as those around public transport. While there are numerous studies of the impact on walking/exercise levels from local shops (and the distance this impact extends), proximity to major centres themselves are less studied.

The early origins of mapping 'walkable catchments' in urban areas goes back to Clarence Perry's concept of the 'neighbourhood unit' with a 400m radius in the 1920s (see Figure 2). Walkability was a crucial attribute of his concept, and it used a 5 minute walk as the suitable walking distance for self-contained neighbourhoods. The design was based on the 'human factor' – all distances calculated (e.g. to schools, parks etc) were intended for the human foot rather than motorised transport.

[17] Walton, D., & Sunseri, S. (2007). *Impediments to Walking as a Mode Choice.* Land Transport New Zealand. https://www.nzta.govt.nz/assets/resources/research/reports/329/docs/329.pdf
[18] Wedderburn, M. (2013). *Improving the cost-benefit analysis of integrated PT, walking and cycling.* New Zealand (p.35) Transport Agency. https://www.nzta.govt.nz/assets/resources/research/reports/537/docs/537.pdf
[19] Ibid
[20] Ibid

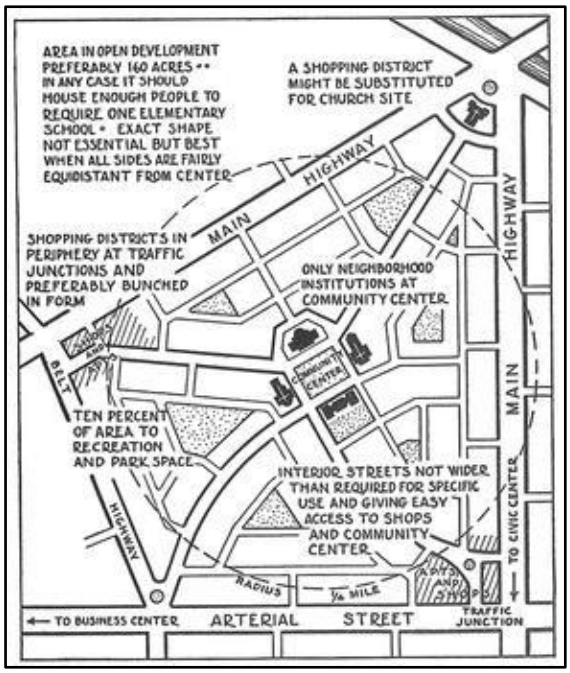

Figure 2: The 'neighbourhood unit' concept[21]

A 5 minute walk has continued to be a popular metric for urban planning, although over the years various studies have challenged this figure, especially in relation to significant destinations.

In his book *'Cities for People'*, Danish architect and urban designer Jan Gehl states that in general terms, a 500m walk is widely accepted as an appropriate walking distance. However, he also notes that it is very dependent on variables such as factors that either enhance or impede walkability.[22] A Canadian study in 2010 found that the overall median walking distance for any purpose (work, shopping, school, leisure) was 650m, exceeding the often used 400m catchment distance.[23]

In the U.S., in recent decades, 400 meters (5-minute walk) has sometimes been assumed to be the distance that "the average American will walk rather than drive" and has been used as the value of an acceptable walking distance. An American study investigated the levels of walking (distances and durations) utilising data from the 2009 National Household Travel Survey. It found that 16% of respondents had at least one walking trip per day and their trips had a median of 800m (10 minutes) and a mean of 1,100m (14-15 minutes). Around 65% of walking trips were over 400m.[24]

These results suggest that the conventional wisdom of using 400m as a walking distance understates the distance that some people commonly walk. It is noted that large variations

[21] Source: A diagram of Clarence Perry's neighbourhood unit, illustrating the spatiality of the core principles of the concept, from the New York Regional Survey, Vol 7. 1929
[22] Gehl, J. (2010). *Cities for People.* Washington DC: Island Press. https://umranica.wikido.xyz/repo/7/75/Cities_For_People_-_Jan_Gehl.pdf
[23] Larsen, J., El-Geneidy, A., & Yasmin, F. (2010). *Beyond the Quarter Mile: Re-examining Travel Distances by Active Transportation.* Canadian Journal of Urban Research, 19(1), 70–88. http://www.jstor.org/stable/26193275
[24] Yang, Y., & Diez Roux, A. (2012). *Walking Distance by Trip Purpose and Population Subgroups.* American Journal of Preventive Medicine. 43. 11-9. 10.1016/j.amepre.2012.03.015.

were found among various purposes for both distance and duration. The distances and durations of walking for recreation were substantially longer than those for other purposes.[25]

An Australian study from 2014 showed that 20-minutes was the maximum time people were willing to walk to meet their daily needs locally.[26] A separate study also proposed that a 20-minute walk (i.e. 2km) is reasonable distance in Australian urban environments.

Another study calculated the average walking journey was 1 kilometre and not many people walked more than 2 kilometres. The accepted threshold for walking to local facilities was 400m while 800m was a suggested threshold for walking to a town centre.[27]

However, there are some conflicting studies that suggest distances nearer than 400m are required to incentivise walking. An American study looked at whether the presence of neighbourhood retail within walking distance would increase the likelihood of walking. It found that only those living within 200m of retail shops had a significant increased likelihood of walking.[28]

In terms of walking trips to large centres (such as metropolitan centres or city centres) a study from Australia found that shorter walking trips of around 400m were strongly associated with destinations such as post boxes, bus stops, transit stations, shopping malls, convenience stores, news agencies. Longer walking trips of around 1,500m were more associated with destinations such as schools, transit stations, and shopping malls.

The authors noted that for *less common destinations* a 1,500m buffer is more appropriate – due to the relative rarity of the destination, and the limited number of people who could access it within 400m. The authors cite rapid transit as an example[29] but potentially a similar argument could be made for metropolitan centres/city centres as they have a higher proportion of novel amenities.

One study used a meta-regression analysis to demonstrate that compact development results in people drive less. The most influential variable on driving was the distance to downtown. With every 1% decrease in distance from household to downtown, driving decreased by 0.63%.[30]

A study from Malaysia found that the majority of respondents would walk around 1km in distance to the city centre. The main factor which attracted street usage by pedestrians was the proximity of the destination (commute distance).[31]

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[25] Yang, Y., & Diez Roux, A. (2012). *Walking Distance by Trip Purpose and Population Subgroups.* American Journal of Preventive Medicine. 43. 11-9. 10.1016/j.amepre.2012.03.015.
[26] Badland H, Whitzman C, Lowe M, Davern M, Aye L, Butterworth I, Hes, D and Giles-Corti B 2014, *Urban liveability: Emerging lessons from Australia for exploring the potential for indicators to measure the social determinants of health*, Social Science and Medicine, 111: 64–73.
[27] Barton, H., Grant, M. & Guise, R. (2003). *Shaping neighbourhoods: A guide for health, sustainability and vitality.* New York: Spon Press.
[28] Iacono, M., Krizek, K., & El-Geneidy, A. M. (2008). *Access to Destinations: How Close is Close Enough? Estimating Accurate Distance Decay Functions for Multiple Modes and Different Purposes.* Minnesota Department of Transportation. https://hdl.handle.net/11299/151329.
[29] McCormack, G. R., Giles-Corti, B., & Bulsara, M. (2008). *The relationship between destination proximity, destination mix and physical activity behaviours*. Preventive medicine, 46(1), 33–40. https://doi.org/10.1016/j.ypmed.2007.01.013
[30] Stevens, M. R. (2017). *Does Compact Development Make People Drive Less?* Journal of the American Planning Association, 83:1, 7-18. 10.1080/01944363.2016.1240044
[31] Rahman, N. A., Shamsuddin, S., & Ghani, I. (2015). *What Makes People Use the Street?: Towards a Liveable Urban Environment in Kuala Lumpur City Centre.* Procedia - Social and Behavioural Sciences, 170, 624-632. https://doi.org/10.1016/j.sbspro.2015.01.064.

Another study indicated the maximum walking distances and times to a range of community facilities and services. It ranged from 400m (5 minutes) to access a local shop or a bus stop, to 2,000m (25 minutes) to access a district centre[32] (i.e. a large centre akin to a metropolitan centre in the Auckland context).

1.4 Walking to city and metropolitan centres – New Zealand research

As outlined above, studies looking at walkable catchments of major centres are not as common as those around public transport, and this is even more so when only looking at New Zealand research. Section 2 of this Appendix below has some overlap with this section as it covers New Zealand guidelines on walkability.

Ian Munro's 2009 critique of theoretical walking catchments around centres acknowledges that in New Zealand the 800m circle has become accepted as representing a convenient 10-minute walk for most people in a community.

This is based on a normative, average journey using a walking speed averaging 1.3m/s across the journey and including minor delays. People walking slower at 1m/s average will cover around 600m; those walking faster at 1.5m/s average may cover around 900m. The actual distance covered will also be impacted by the climate and topography.

Munro also highlights the implications of extending walkable catchments in terms of the amount of land which is then covered (if using a basic ped-shed circle catchment as per Option 1 discussed in the main body of this report). Even if using a refined catchment based on an actual walking network (as per Option 2 discussed in the main body of this report), the implications of extending the catchment are still relevant:

> "The 800m radius circle encompasses approximately 200ha of land. But it is worth contemplating the nature of circles. A doubling of radius will generally quadruple the area within it; a 400m radius circle encompasses 50ha, and a 200m radius circle 12.5ha. The implication for growth planning is clear – the greatest amount of area (and hence land possible for intensification) will always exist at the periphery."[33]

2 New Zealand walkability guidance

2.1 People + Places + Spaces – A design guide for urban New Zealand (2002)

The Ministry for the Environment ('**MfE**') produced this guide to introduce urban design and guidance for achieving better urban design in New Zealand's towns and cities. The guide recommends that urban nodes should be defined as walkable catchments. It then goes on to state that a walkable catchment should be 400m (5 minutes) from neighbourhood centres

[32] Barton, H., Grant, M. & Guise, R. (2003). *Shaping neighbourhoods: A guide for health, sustainability and vitality.* New York: Spon Press. Azmi, D. I., Karim, H. A., & Ahmad, P. (2012). *A Comparative Study of Walking Behaviour to Community Facilities in Low-Cost and Medium Cost Housing*. Procedia - Social and Behavioural Sciences, 35, 619-628.

[33] Munro, I. (2009). *The Problem of Catchment in Centres-based Residential Growth Planning.* Urbanism Plus Ltd.

and bus stops, and 800m (10 minutes) from rail stations and town centres – as outlined in Figure 3 below.

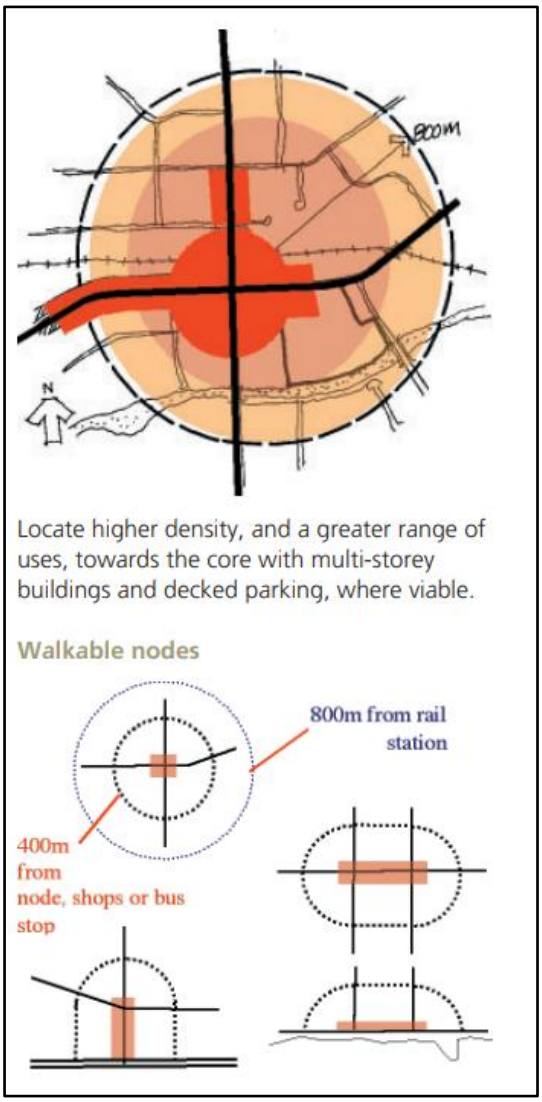

Figure 3: Walkable catchment diagrams[34]

2.2 Urban Design Toolkit (2006)

The Ministry for the Environment produced a third edition of this toolkit in 2006. The Urban Design Toolkit is a compendium of tools that can be used to facilitate high-quality urban design.

It covers research and analysis tools which include a 'ped-shed' analysis. This is described as a mapping technique that calculates the population catchment within a 5 or 10 minute walk from an activity, transport stop or node. An example of a ped-shed map is shown in Figure 4 below.

[34] Source: Ministry for the Environment. (2002). *People + Places + Spaces – A design guide for urban New Zealand.* (pg. 41) https://www.boprc.govt.nz/media/90678/peopleplacesspacesurbandesignguideentirereport.pdf

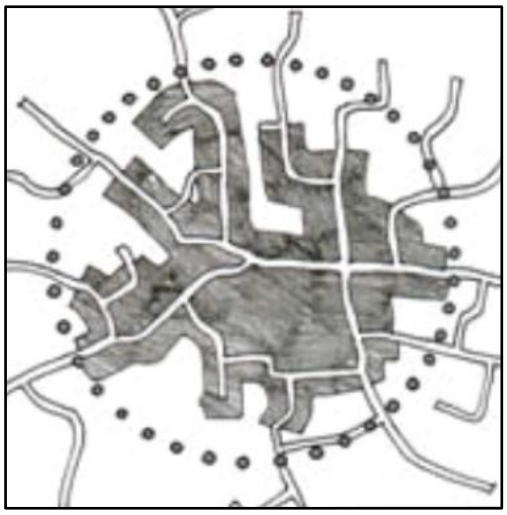

Figure 4: Example of a ped-shed analysis map

To determine a ped-shed, a fixed-diameter circle is overlaid on a map with the centre placed on the destination point. Circle radii are usually based on an average person walking 400m in five minutes. A second radius of 800m indicates a 10 minute walk. The population density within this radius can then be calculated to determine the number of people within easy walking distance of the destination. A ped-shed analysis can be refined further by mapping linkages and obstacles that may decrease or increase travel distance or time, to give a more accurate population figure.

2.3 Pedestrian Planning and Design Guide (2009)

In 2009 Waka Kotahi (NZ Transport Agency) produced this guide[35] to promote a consistent 'world's best practice' approach to planning, designing, operating and maintaining walking infrastructure and networks. The guide notes that as New Zealand research into walking trips increases, the guide will be updated and augmented.

The guide states that there are no national thresholds for walkability indicators in New Zealand, but Land Transport NZ is currently developing walkability assessment systems in New Zealand.

In determining the walkability of an area, existing pedestrian activity is a useful starting point. However, it is also important to be able to estimate how many people would walk if the environment were modified, such as through land use changes or removing physical and/or institutional barriers to pedestrian movements. This is known as 'latent demand'.

The guide notes that the vast majority of people walk at speeds between 0.8 metres per second (m/s) and 1.8 m/s.

[35] New Zealand Transport Agency (2009). *Pedestrian Planning and Design Guide.*

2.4 Pedestrian Network Guidance (2025)

Waka Kotahi prepared a Pedestrian network guidance document that provides design advice and standards for walking in New Zealand. It provides a 'one-stop-shop' of best practice guidance, specifically suited to New Zealand's regulatory and operating environment.

The guidance is an update of the Pedestrian Planning and Design Guide (2009) and based on research and industry surveys in 2018 that helped inform what new guidance was needed and what guidance needed updating.

The *New Zealand Household Travel Survey* shows that of the estimated 6000 million plus trips made by New Zealand households annually, nearly one in five (17 percent) was made by walking.[36] Around ninety percent of walking trips are less than 2km long.[37] For trips of 2km or less, the walk mode share is 30%. Only 4% of trips longer than 2km are made on foot. This is illustrated on the graph in Figure 5 below.

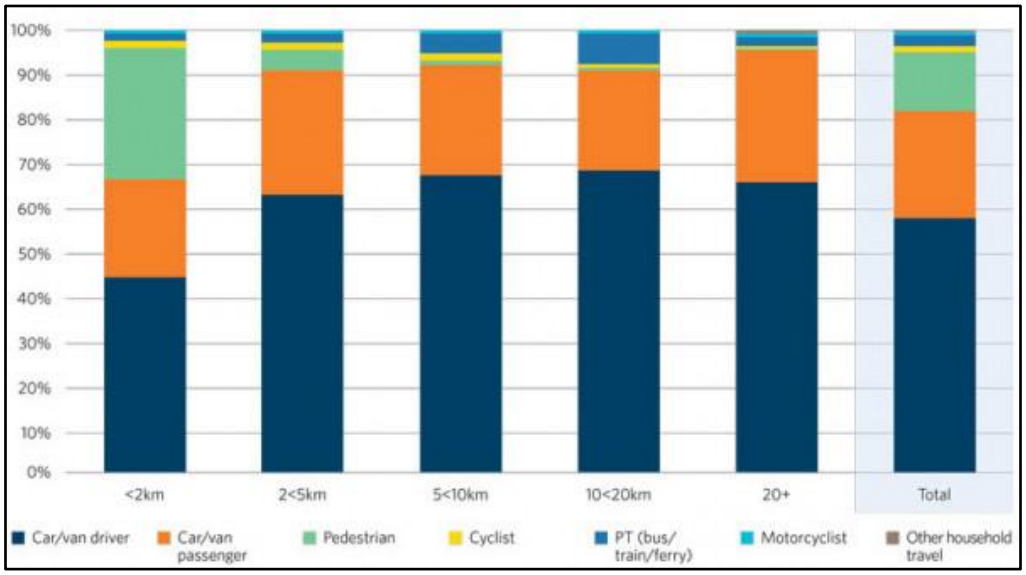

Figure 5: Mode distribution of trip legs by distance of trip leg, main urban areas[38]

The guidance notes that people tend not to walk for trips that take more than 30 minutes, and they walk more when trip durations are short. For 'walk only' trips, the New Zealand Household Travel Survey data shows that half are more than 10 minutes, 18 percent are more than 20 minutes and nine percent are more than 30 minutes.

2.5 Aotearoa Urban Street Planning and Design Guide (2024)

Waka Kotahi created this guide to provide a national framework and high-level principles for multi-modal street design in an urban context. The guidance refers to walkable catchments and states that international practice applies 800m (10 minutes) walking catchment at either

[36] Ministry of Transport. (2015). *Walking: New Zealand Household Travel Survey 2011–2014*
[37] Ministry of Transport. (2018). *New Zealand Household Travel Survey 2015–2018*
[38] Source: Waka Kotahi NZ Transport Agency (2025). *Pedestrian network guidance* https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance

end of a rail journey. It also states that research[39] in Auckland suggests passengers in New Zealand may walk further - up to 1,200m on a quality route.

The guidance steers away from using basic 800m circles and states that actual catchments are determined by:

- street/path network connectivity and layout including intersections
- space allocation and priority given to walking along and across the street
- quality of the pedestrian and cycling environment (influenced strongly by built form and land use activity factors adjacent the street as well as transport factors)
- the quality of infrastructure
- priority given to modes
- influencing factors including topography

The guidance notes that while walkable catchments of greater than 800 metres will be suitable in some situations (e.g. where rapid transit is of high frequency), there is potential for higher densities and other factors such as high amenity along adjacent main routes and corridors. There is an expectation that walkable catchment of a city centre will be larger than those of metropolitan centres, particularly in larger tier 1 urban environments. This is because city centres are likely to be larger, have more services and amenities, and be better connected than a metropolitan centre.

2.6 Government Policy Statement on Housing and Urban Development (2025), consultation draft

The Government's policy statement on Housing and Urban Development describes long-term and shorter-term outcomes for the housing and urban system. While previous iterations of this document included reference to a baseline indicator measuring the proportion of people with access to essential services within 15 minutes by walking, cycling, public transport and car, this measure does not appear in the latest draft version for consultation in 2025.

The consultation draft policy statement does not specifically mention anticipated walkability parameters but does set out outcomes for New Zealand cities including the positive community outcomes for 'development in the right places' (page 10)[40].

3 Auckland Council's previous walkable catchment approaches

Prior to PC78, Auckland Council had not defined the term 'walkable catchment' in any planning or strategic document such as the AUP. Neither had Auckland Transport in its transport planning documents. Until the advent of the NPD-UD in 2020, walkable catchments were not used as a regulatory method but understood and applied as ped-sheds. The NPS-

[39] This research is not cited in the MfE guidance document. Therefore, it is not clear what it is referring to, but it is assumed to be: Wilson, L (2013). *Walkable catchments analysis at Auckland train and Northern Busway stations – 2013*. Auckland Council technical report, TR2013/014

[40] https://www.hud.govt.nz/about-us/have-your-say/past-consultations/draft-government-policy-statement-on-housing-and-urban-development-2025

UD Policy 3(c) requirement for district plans to enable six-story building heights in walkable catchments means the use of walkable catchments as a district plan method (as discussed in **Appendix 6**) is new.

In establishing distance options for walkable catchments in the context of the NPS-UD, current or recent positions adopted by the council (or its Council Controlled Organisations ('**CCOs**')) were identified. It is not proposed to specifically use any of these positions in the new context of the NPS-UD, but they are helpful to understand for context.

The council and its CCOs have used a range of different distances for a walkable catchment (or related concepts) since 2012, and for different purposes. The distances have ranged from 250m out to 1,600m. A summary of some of the relevant instances where a specific distance or approach has been identified is outlined in the table in Figure 6 below.

Process or document	Date	Walkable Catchment distance	Comments
Auckland Plan	2012	800m (Local and Town Centres) 1,000m (Metropolitan Centres) 2,000m (City Centre)	• A 10 minute walkable catchment is the area in which people can be expected to easily walk to activities in a centre • Walking distance is outlined for different centres based on their size and function
Proposed Auckland Unitary Plan	2013	500m	• Applied from Metropolitan, Town and Local Centres, Rapid and Frequent Transit and Arterial roads for the purpose of applying higher intensity residential zones • This distance was related to the term 'moderate walking distance' in the Regional Policy Statement (though the above locations differ from the locations listed in the Regional Policy Statement)
Independent Hearings Panel recommendations	2016	400-800m	• Unclear where this applies, though presumably the same as the above
Council submission on draft National Policy Statement – Urban Development	2019	1,500m	• 1,500m pedestrian catchment of rapid transit network stops
			•
Auckland Design Manual	2022	800m	• Neighbourhood design, movement networks: able bodied adults can walk at an

Process or document	Date	Walkable Catchment distance	Comments
			average speed of 1.5m per second or up to 800m in 10mins.
			•
Urban street and road design guide (Auckland Transport)	2022	600m (5-10 mins walk) - 1,600m (20 mins walk)	• Transit oriented development typically focused within 600m of a rail or busway station. • 20mins is an acceptable walk to rapid transit stations
Auckland Future Development Strategy 2023-2053 Monitoring Report 2024	2024	1,500m	• Measures number of dwellings consented inside 1,500m catchments rapid transit stations.
Auckland monthly Housing Update	2025	1,500m	• Measures percentage of dwellings inside the 1,500m walking catchments of the rapid transit network

Figure 6: Summary of previous Auckland Council (and CCO) approaches to 'walkable catchments'

These positions have been reached based on varying levels of evidence, with some having little documented explanation whereas other documents or processes were tested through evidence and/or consultation and formal reporting. A further explanation of each document or project is below.

3.1 Auckland Plan (2012)

The first Auckland Plan in 2012 set out the hierarchy of urban centres. It stated that the city centre lies within a 2km walkable catchment (approximately).[41] It also equated a distance for other centres in which people could be expected to easily walk as 10 minutes. However, the plan noted that this is an approximate walking distance and detailed planning would be needed to refine the actual distance for each centre. Although Figure 7 appears to be a radial ped-shed, the Auckland Plan took an approach based on actual walking networks.

[41] Auckland Council (2012). *Auckland Plan.* (p.253)

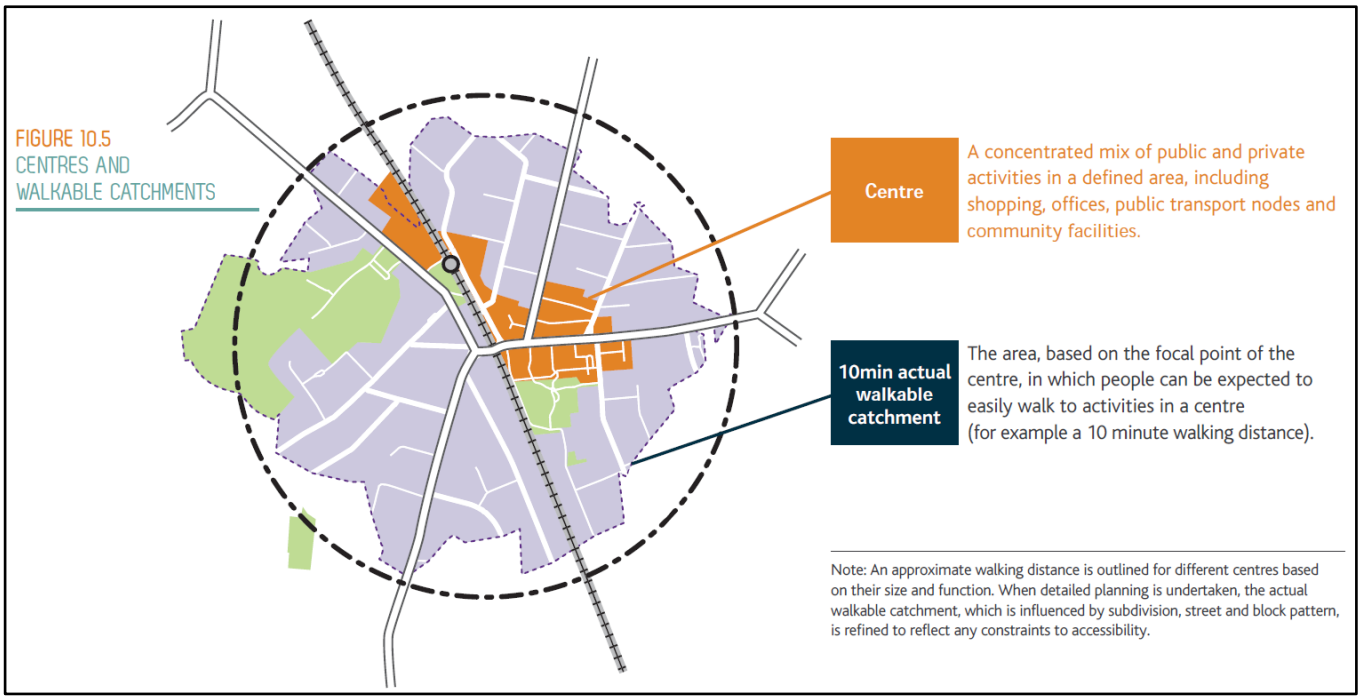

Figure 7: Centres and walkable catchments diagram from the Auckland Plan 2012

A centres and corridors technical report[42] that informed the drafting of the Auckland Plan (and formed part of the s32 on the Proposed Auckland Unitary Plan[43]) went into further detail on walkable catchments.

The report stated that a walkable catchment is the area based on the focal point of a centre in which people can be expected to easily walk to activities in a centre. These could vary for different centres because of contextual issues. However, for the purposes of providing consistent information at a strategic level for modelling and comparison between centres, the report recommended the following walkable catchments metrics.

- Town centres – based on a 10 minute walk (800m radius).
- Metropolitan centres – based on a 12-15 minute walk (1,000m radius). This larger size is based on a metropolitan centre's greater ability to attract people through a wider range of services, and greater transport accessibility. Although research indicated that people will walk greater distances than this to access Rapid Transit Network services, for the purposes of the report a conservative walking catchment was chosen.
- Local centres – based on a 10 minute walk (800m radius). The use of this catchment reflected that many of these centres, while smaller than town centres, have access to Rapid Transit Network and 'Quality Transit Network' services.

[42] Mackay, Dawne (2012). *Technical report: Centres and Corridors.* Auckland Council.
[43] Refer to https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/unitary-plan/history-unitary-plan/documentssection32reportproposedaup/appendix-3-4-5.pdf

The report also noted that at the stage where Local Area Planning and Precinct Planning is undertaken, contextual elements (e.g. subdivision, block and roading patterns, topography) should be taken into account to derive a spatially distinct catchment for each centre.

This approach is similar to the preferred option (Option 3 in the main body of this s32 report), although a key difference is the single point of origin relative to a centre, rather than the use of a centre edge as is required to implement NPS-UD Policy 3(c).

3.2 Proposed Auckland Unitary Plan (2013)

The phrase 'moderate walking distance' was proposed as part of the Regional Policy Statement ('**RPS**') section of the Proposed Auckland Unitary Plan (policy 2.4.2 (2) and (3)). During the hearings on the plan, Auckland Council's evidence did not support defining the phrase in the plan as "this needs to be considered on a case by case basis with consideration of the walking environment, accessibility and topography".[44]

Further evidence from council outlined some zoning principles that indicated that the Terrace Housing and Apartment Building ('**THAB**') zone should be applied within 250m of centres, the rapid and frequent service network and large community facilities or open space facilities, and that the Mixed Housing Urban zone should be applied within 250m of the THAB zone. These principles are illustrated in the diagrams in Figure 8 and Figure 9 below and were guidance to establishing a "moderate walkable distance" for the purpose of responding to rezoning submissions on the plan.[45]

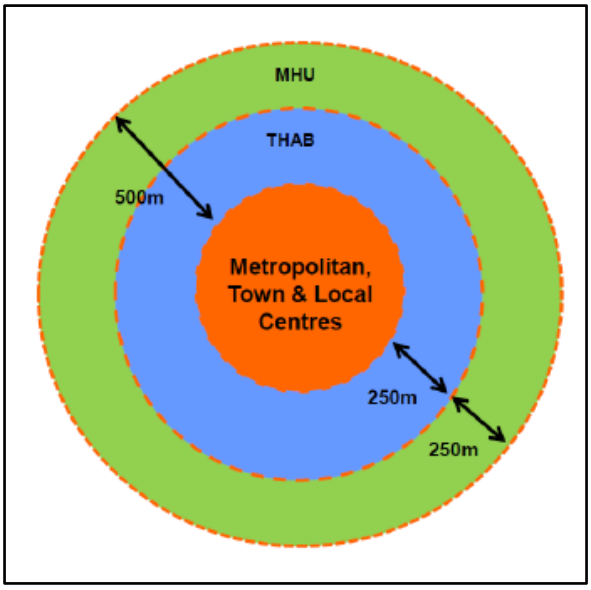

Figure 8: Diagram of Auckland Council's zoning principles for Metropolitan, Town and Local Centres based on a moderate walking distance[46]

[44] Trenouth, Chloe (2016). *Independent hearings panel statement of rebuttal evidence on behalf of Auckland Council on Topic 013* Paragraph 6.21
[45] Duguid, John (2016). *Independent hearings panel statement of primary evidence on behalf of Auckland Council (zoning) 3 December 2015 on Topic 080 Rezoning and Precincts (General) and Topic 081 Rezoning and Precincts (Geographical Areas)*
[46] Duguid, John (2016). *Independent hearings panel statement of rebuttal evidence on behalf of Auckland Council (zoning) 27 January 2016 on Topic 080 Rezoning and Precincts (General) and Topic 081 Rezoning and Precincts (Geographical Areas)*

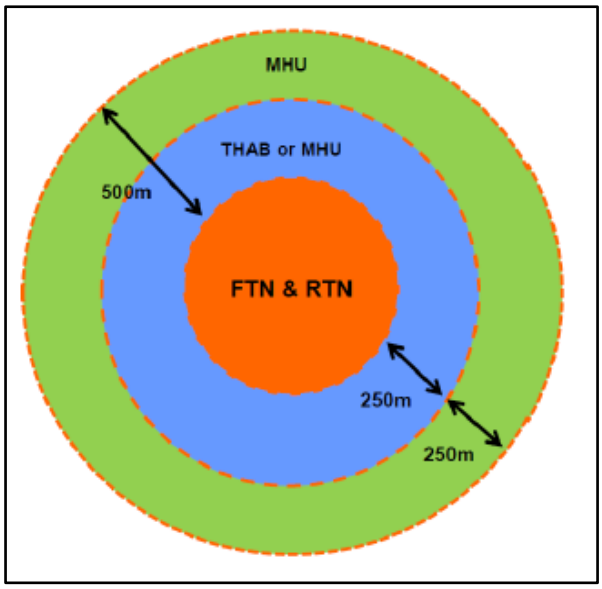

Figure 9: Diagram of Auckland Council's zoning principles for Frequent and Rapid Transit based on a moderate walking distance[47]

Overall, the application of more intensive zones was recommended to be at a distance of up to 500m from the edge of centres and rapid public transport. Evidence from Auckland Transport stated that this distance broadly aligned with international practice, where the commonly cited standard is 400m for an average level of public transport and 800-1,000m for services of a higher quality, especially those that run on their own right of way. These distances all derive from the distance an average person can walk within 5 minutes (400-500m) and 10 minutes (800-1,000m).[48]

The evidence went on to acknowledge that while there is uncertainty around any specific threshold figure, the closer a person lives to public transport the more likely they are to walk to and use that service. Therefore, to increase public transport use, intensification should be focused as close as possible to the transport network. Conversely, allowing intensification further away from public transport will likely see a smaller percentage of these residents use public transport and a corresponding increase in private vehicle use.[49]

As a starting point, Auckland Transport's evidence found that a distance of around 400-500m from rapid transit stations (subject to factors such as topography) was appropriate and consistent with studies showing this distance being aligned with a higher level of public transport usage. The evidence found more uncertainty around walkable catchments for centres but landed on a distance equal to a 5 minute walk (around 400-500m). This sits in the middle range of the figures in the studies reviewed in the evidence and represents the distance many people will walk for their day-to-day needs.[50]

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[47] Duguid, John (2016). *Independent hearings panel statement of rebuttal evidence on behalf of Auckland Council (zoning) 27 January 2016 on Topic 080 Rezoning and Precincts (General) and Topic 081 Rezoning and Precincts (Geographical Areas)*

[48] Cribbens, Alastair. Wrenn, Steve. Winter, Liam. *Joint statement of evidence on behalf of Auckland Council (Auckland Transport) for Topic 080 Rezoning and Precincts (General) and Topic 081 Rezoning and Precincts (Geographical Areas) before the Auckland Unitary Plan Independent Hearings Panel.* 3 December 2015.

[49] Ibid

[50] Ibid .

3.3 Independent Hearings Plan – recommendations to the Auckland Council on the Proposed Auckland Unitary Plan

In recommending the approach to residential zoning in the Unitary Plan maps, the Independent Hearings Panel referred to the concept of walkable catchments and the metric that they preferred:

> "In terms of applying higher density zones, the Panel has preferred a wider walkability metric than the 200-400m [sic][51] proposed by Council. While accepting that a 400-800m metric as proposed by the Housing New Zealand Corporation is not appropriate in all circumstances, or likely realisable within the current medium-term, ten-year planning horizon, the Panel considers that approach to be more appropriate strategically when taking the longer-term 2041 planning horizon into account."[52]

The Housing New Zealand Corporation zoning principles are illustrated in the diagram in Figure 10 below.

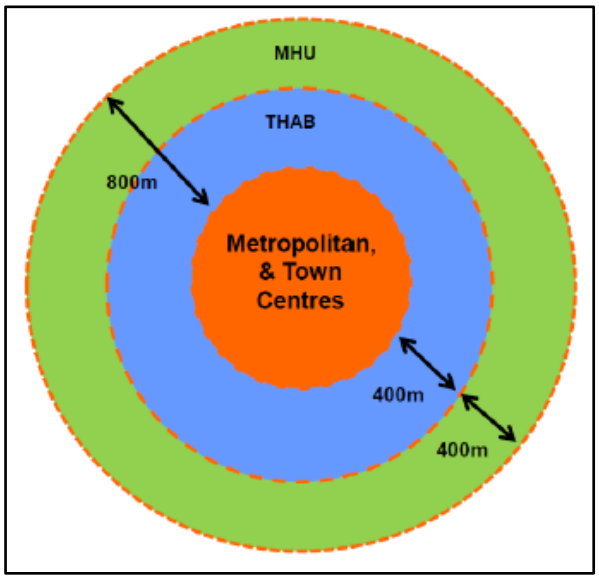

Figure 10: Diagram of Housing New Zealand Corporation's zoning principles for Frequent and Rapid Transit based on a moderate walking distance[53]

The Independent Hearings Panel's explanation for these distances is very brief and as such it is unclear where exactly these distances were intended to apply (i.e. whether the panel had adopted the council's zoning approach but with different distances, or they had adopted an altogether different approach). Given the lack of explanation it is assumed that the 400-800m was meant to apply in the same locations as council's 'moderate walking distances'

[51] As outlined above, the Auckland Council evidence supported a figure of around 500m.
[52] Independent Hearings Panel (2016). *Report to Auckland Council - Changes to the Rural Urban Boundary, rezoning and precincts – Hearing topics 016, 017 Rural Urban Boundary, 080 Rezoning and precincts (General) and 081 Rezoning and precincts (Geographic areas).* Section 3.3.4 https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/unitary-plan/history-unitary-plan/ihp-designations-reports-recommendations/Documents/ihp016017080081changestorubrezoningprecincts.pdf
[53] Duguid, John (2016). *Independent hearings panel statement of rebuttal evidence on behalf of Auckland Council (zoning) 27 January 2016 on Topic 080 Rezoning and Precincts (General) and Topic 081 Rezoning and Precincts (Geographical Areas)*

(Metropolitan Centres, Town Centres, Local Centres, Rapid Transit, Frequent Transit, Arterials).

The residential zone mapping recommended by the Independent Hearings Panel (based on the 400-800m walkable catchments) was accepted by Auckland Council.

3.4 Auckland Council submission on the Proposed National Policy Statement on Urban Development

In 2019 Auckland Council lodged a submission in response to the Government's discussion document *"Planning for successful cities"* and the proposed NPS-UD. The council supported the overall intention of the proposed NPS-UD, but not all the content.

The submission sought to make the point that the Auckland Unitary Plan was already effectively enabling intensification within key areas of Auckland. It stated that both employment space and housing was being delivered across Auckland at increasing pace, and in accessible locations that provide for housing choice.

The submission stated that after the Auckland Unitary Plan became operational, there was a large increase in consents granted for housing and additional business floor space and that most of Auckland's housing growth had occurred within existing urban areas.

The submission also highlighted a pattern of larger developments near public transport. It stated that while only 2.6% of the Auckland region's land area falls within a 1,500m walk of a rapid transit station (a train station or northern busway stop), this small area was where 41% of all multi-unit developments were consented in 2017/2018.

This share of multi-unit consents is 16 times higher than the rapid transit stop catchment's share of Auckland's land. If only considering the 2016-defined urban area, overall 40% of all dwellings consented in the urban area were within the rapid transit stop catchments (even though those catchments only account for 25% of Auckland's urban area).[54]

3.5 Auckland Design Manual (2022)

The Auckland Design Manual was created to support developers through the design concept and development phase. It is a practical guide that sits alongside the Auckland Unitary Plan. The Unitary Plan is the 'rule book' and the Auckland Design Manual is the 'how to' guide.

The 'Neighbourhood and subdivision design' section of the manual include subsections 3.1. Connections and connectivity and 3.2 Walkable neighbours which provide commentary on the walkability of communities. The manual recommends subdivision design that maximises the area and the mix of activities that can be accessed from each lot within a 10-minute walk. The manual notes that able-bodied adults can walk at an average speed of 1.5 metres per second, or up to 800m in 10 minutes.[55]

[54] Auckland Council (2019). *Auckland Council submission to the Proposed National Policy Statement on Urban Development - 10 October 2019.*
[55] Auckland Council (2025). *Auckland Design Manual* https://www.aucklanddesignmanual.co.nz/en/design-guidance/neighbourhood-and-subdivision-design.html

3.6 Auckland Transport - Urban Street and Road Design Guide (2022)

The Urban Street and Road Design Guide forms part of Auckland Transport's Transport Design Manual. The Transport Design Manual is a set of guides, codes and specifications created for the Auckland region based on international best practice.[56]

The Urban Street and Road Design Guide refers to 'pedestrian catchments'. These represent the range that people can walk over a given time period. Common barriers to range include busy streets with difficult pedestrian crossings and paths in areas that feel unsafe. Maximising pedestrian accessibility is a key strategy to supporting local businesses, public transport services and other destinations.

The guide includes a section on local destinations and how these enable to people to access community services, retail offerings and even jobs without the need for a long-distance trip. The guide includes the diagram in Figure 11 below showing 'acceptable' travel times of a 20 minute walk to destinations such as rapid transit, town centres, intermediate schools, and high schools. It shows a 10 minute walk as being acceptable for trips to neighbourhood centre shops and frequent bus services.[57]

Figure 11: Acceptable walking times to different destinations[58]

The guide includes a glossary that refers to 'Transit-Oriented Development' as being "typically focussed within 600m of a rail or busway station." The glossary also includes the term "Walkable" which does not give any time or distance metric and is described as "An environment designed to make travel on foot convenient, attractive and comfortable for various ages and abilities. Considerations include directness of the route, interest along the

[56] Auckland Transport (2022) *Urban Street and Road Design Guide* – Version 1.1
[57] In this case "town centre" could be reasonably interpreted to apply to Metropolitan and Town Centre zones and "neighbourhood centre shops" to Local and Neighbourhood Centre zones.
[58] Source: Auckland Transport (2022) *Urban Street and Road Design Guide* – Version 1.1

route, safety, amount of street activity, separation of pedestrians and traffic, street furniture, surface material, footpath width, prevailing wind direction, intersection treatment, kerb cuts, ramps and landscaping".[59]

3.7 Auckland Future Development Strategy 2023-2053 monitoring (2024)

Auckland's Future Development Strategy (2023) ('**FDS**') is a plan to manage Auckland's growth for the next 30 years. The FDS sets out a quality compact, multi-nodal approach to accommodating growth. This is a continuation of the approach established in previous strategies, but with further refinement of concepts and approaches. This means providing for most growth in the existing urban area through strengthening existing centres and neighbourhoods, particularly those with good access, providing for some growth in future urban areas and providing for limited growth in rural areas.

The first monitoring report for the FDS covers the period 1 July 2023 to 30 June 2024.The monitoring report states that 3,151 dwellings were consented within 1,500m catchments of rapid transit stations. This is 23% of the total dwellings consented.[60]

The report also states that in 2023/2024, 81 per cent of residential dwellings consented within 1,500m catchments of rapid transit stops were intensive housing (apartments or townhouses etc).[61]

The FDS was adopted in November 2023 and it replaces the Auckland Plan 2050 Development Strategy and the 2017 Future Urban Land Supply Strategy. The monitoring of a 1,500m catchment continues with the metric used for the monitoring of the previous Auckland Development Strategy.

3.8 Auckland Monthly Housing Updates (2025)

Auckland Council produce a monthly summary of data for housing in Auckland including the number of dwellings consented, the types of dwellings, the locations of the new dwellings.[62]

In the September 2025 update (which uses data from July) it notes that:

> "In July 2025, 275 dwellings (20 per cent of total dwellings consented) were consented inside the rapid transit network's (RTN) 1500m walking catchments. In the last 12 months, 3610 dwellings were consented inside the 1500m RTN walking catchments."

The map showing the spatial distribution of dwellings consents shows three categories of "Pedestrian catchment of rapid transit network stops":

- 0 – 500m
- 500 – 1,000m

[59] Ibid.
[60] Auckland Council (2024). *Auckland Future Development Strategy 2023-2053 Monitoring Report December 2024* (p.17)
[61] Auckland Council (2024). *Auckland Future Development Strategy 2023-2053 Monitoring Report December 2024* (p.17)
[62] Auckland Council Land Use Research and Evaluation Team, Strategic Advice and Research Unit (2025). *Auckland Monthly Housing Update.* September 2025 https://www.knowledgeauckland.org.nz/media/k2qd5ds3/auckland-monthly-housing-update-09september-2025.pdf

- 1,000 – 1,500m

The datasheet behind the Auckland monthly housing update[63] contains dwelling figures for each of these catchments. However, the only catchment referred to in the update report is the total 1,500m catchment. This catchment distance was originally set in 2017 and appears to be nominally based on a study by Auckland Council in 2013 on how far people walk to train stations and busway stations.[64]

While there is now some further guidance and context around walking distances by Auckland Transport, MfE, and by Auckland Council through PC78, to retain consistency and the ability to look at data trends, the monthly housing update still collects data based on a 500m, 1,000m, and 1,500m distances.

4 Comparator city approaches

It can be useful to look to other international cities and how they have used walkable catchments to inform zoning and/or urban form planning. Figure 12 below shows some examples of the guidance offered by other international local governments (city and state) in relation to the distance of walkable catchments. This is by no means an exhaustive list. The examples are mostly from areas that are similar to Auckland in terms of their history and development.[65]

The table shows that walkable catchments most frequently feature in Urban Design or Transit Oriented Development guidelines. The recommended distances range from 400m–800m or 5–10 minutes' walk from public transport, with the longer distance generally being seen as more appropriate for major transit stops.

The guidelines also often point to height and density being focussed immediately around stations and decreasing within the catchment so that the built form on the edge of the catchment is similar to the lower density land uses outside the catchment. This is different to the approach required by the NPS-UD which directs that 6 storeys must be enabled within the catchment without any 'stepping down' of heights and densities (i.e. to attempt to blend with the surrounding more urban form outside the catchment or to concentrate the greatest land use intensity closest to rapid transit stops/centres where greater population density can be proximate to rapid and reliable public transport/greatest range of commercial activities, community services and amenities).

[63] Auckland Council Land Use Research and Evaluation Team, Strategic Advice and Research Unit (2025). *Auckland monthly housing update Datasheet.* https://knowledgeauckland.org.nz/media/gchokewl/auckland-monthly-housing-update-datasheet-09september-2025.xlsx

[64] Wilson, L (2013). *Walkable catchments analysis at Auckland train and Northern Busway stations – 2013.* Technical Report: TR2013/014. Auckland Council. https://knowledgeauckland.org.nz/media/1541/tr2013-014-walkable-catchments-analysis-at-auckland-train-and-northern-busway-stations-2013.pdf

[65] Cities in Australia, Canada and the USA are generally more comparable to Auckland than European, Asian or African cities due to their similar age, culture, colonial migration history, and significant low-density development with associated auto-dependency.

Location	Guidance document	Distance	Additional detail
Victoria, Australia	Plan Melbourne 2017 - 2050: 20-minute neighbourhoods[66]	**800m (10 mins)**	• A 20-minute journey represents an 800m walk from home to a destination and back again. Or a 10 minute walk to your destination and 10 minutes back home.
Victoria, Australia	Plan for Victoria: a plan by Victorians, for Victorians[67]	**800m (10 mins)**	• Aim for most people in Melbourne and regional cities to live within a 10-minute walk (800 metres) of public transport.
Victoria, Australia	Planning for neighbourhood activity centres: Guide and toolkit[68]	**800m**	• Outcome: most of municipality's residents are located within 800m walking distance of an activity centre • Most short trips – up to 800m – are made by walking or cycling, where people have the capability to do so • Sets out a process for mapping the walkable catchment
Queensland Australia	Transit oriented development: guide for development in a railway environment[69]	**800m**	• Core (200m), Primary Walking Catchment (400m) and Secondary Walking Catchment (800m)
Queensland, Australia	Walking network planning guidance: stage 2 - Mapping the plan[70]	**1,000 - 2,000m**	• Walking network planning is a tool to help understand the walking transport needs and opportunities in a place, generally up to a 1- 2-kilometre catchment.
Western Australia, Australia	State planning policy 4.2 Activity Centres[71]	**800m, 800-1200m**	• Medium and high density housing should be incorporated within the walkable catchments of activity centres

[66] The State of Victoria: Department of Environment, Land, Water and Planning. (2017). *Plan Melbourne 2017 – 2050: 20-minute neighbourhoods* https://www.planning.vic.gov.au/policy-and-strategy/planning-for-melbourne/plan-melbourne/20-minute-neighbourhoods
[67] The State of Victoria: Department of Transport and Planning. (2025). *Plan for Victoria: a plan by Victorians for Victorians https://www.planning.vic.gov.au/__data/assets/pdf_file/0033/739473/Final-Plan-for-Victoria-For-Web.pdf*
[68] Victoria State Government: Department of Transport and Planning. (February 2024). Planning for neighbourhood activity centres: Guide and toolkithttps://www.planning.vic.gov.au/__data/assets/pdf_file/0030/702768/DTP0701-Neighbourhood-Activity-Centre_Plan2_v5a.pdf
[69] The State of Queensland: Department of Infrastructure and Planning. (2010). *Transit oriented development: guide for development in a railway environment.* https://cabinet.qld.gov.au/documents/2009/dec/tod%20publications/Attachments/tod-guide[1].pdf
[70] Queensland Government: Department of Transport and Main Roads. (2024). *Walking Network Planning Guidance* https://www.tmr.qld.gov.au/travel-and-transport/pedestrians-and-walking/guidance-and-resources/walking-network-planning-guidance
[71] Government of Western Australia. (July 2023). *State planning policy 4.2 Activity Centres* https://www.wa.gov.au/system/files/2023-07/spp_4.2-activity-centres.pdf

Location	Guidance document	Distance	Additional detail
			• Depending on the centre the extent of the walkable catchment is either 200m, 400m, 800m or 1200m with the inner 200m comprising the centre core.
Western Australia, Australia	Metronet: station precincts[72]	**1,000m**	• Areas around stations for desirable growth and investment • 'station precincts', are generally the area within one kilometre of each station (around a 10 to 15 minute walk
Western Australia, Australia	Liveable neighbourhoods [73]	**400 - 800m**	• Focus on extra density within 800m of Rapid transit networks and larger centres • Stepping down to a transition area toward (but within) the edge of this area
Sydney, Australia	Integrated Public Transport Service Planning Guidelines[74]	**400m – 1,000m**	• 800m – 1,000m for mass transit stations and intermediate transit stations. • 400m for local transit stations
Edmonton, Canada	Transit Oriented Development Guidelines[75]	**400 - 800m**	• Main height and density within 200m • Measure from station platform
Calgary, Canada	Transit Oriented Development Policy Guidelines[76]	**600m approx (5-10 mins)**	• "The distance that a pedestrian is likely to travel to take transit"

[72] Government of Western Australia: Metronet. (November 2018). *What are Metronet station precincts?.* https://www.metronet.wa.gov.au/station-precincts
[73] Government of Western Australia: Department of Planning. (2015). *Liveable neighbourhoods: 2015 Draft.* https://www.wa.gov.au/system/files/2021-05/FUT-LiveableNeighbourhoods_2015.pdf
[74] NSW Ministry of Transport (2013) *Integrated Public Transport Service Planning Guidelines.* Sydney, Australia.
[75] City of Edmonton Sustainable Development and Transportation Services Departments. (2012). *Transit Oriented Development Guidelines.* Edmonton City Council. https://www.edmonton.ca/sites/default/files/public-files/documents/PDF/TOD_Guidelines_-_February_2012.pdf
[76] The City of Calgary: Land Use Planning & Policy. (2005). *Transit Oriented Development Policy Guidelines.* https://www.calgary.ca/content/dam/www/pda/pd/documents/transit-oriented-development/tod-policy-guidelines.pdf

Location	Guidance document	Distance	Additional detail
Ontario, Canada	Provincial Planning Statement, 2024: Under the *Planning Act*[77]	**500-800 metres**	• An area 500-800m from a major transit station that maximises the number of potential transit users that are within walking distance to the station, by increasing housing density
Vancouver, Canada	Transit-Oriented Communities Design Guidelines[78]	**800m**	• Within that area height and density should scale down
Vancouver, Canada	Transit-orientated areas rezoning policy[79]	**200, 200-400, 400-800 metres**	• Stepped height and density requirements to be enabled around Sky Train Stations and Bus Exchanges
San Francisco, USA	Transit-Oriented Development Guidelines. Bay Area Rapid Transit[80]	**400-800m[81] (5-10 mins)**	• "Overall, the proportion of transit riders walking to transit is greatest within 1/4 mile or less of a station, typically declining by one-half between 1/4 and 1/2 mile, and becoming insignificant beyond 1/2 mile"
Washington State, USA	Middle Housing in Washington[82]	**400 metres (1/4 mile)**	• Sets a minimum number of middle housing units that must be allowed per lot within ¼ mile walking distance of major transit stop in predominantly residential zones
Valdosta-Lowndes, USA	Transit-Oriented Development Guidelines[83]	**400m (1/4 mile)**	• Centrally located transit with walking distances no more than 1/4 to 1/2 mile • Density sufficient to support cost-effective transit, retail services, and infrastructure.

[77] Ministry of Municipal Affairs and Housing, Ontario. (2024). *Provincial Planning Statement 2024* https://www.ontario.ca/files/2024-10/mmah-provincial-planning-statement-en-2024-10-23.pdf
[78] Translink. (2012). *Transit-Oriented Communities Design Guidelines.* https://www.translink.ca/-/media/translink/documents/plans-and-projects/managing-the-transit-network/transit_oriented_communities_design_guidelines.pdf
[79] City of Vancouver. (2024). *Policy: Transit-orientated areas rezoning policy* https://guidelines.vancouver.ca/policy-rezoning-transit-oriented-areas.pdf
[80] Arrington, G., & Thorne-Lyman, A. (2017). *Transit-Oriented Development Guidelines. Bay Area Rapid Transit.* https://www.bart.gov/sites/default/files/docs/BART_TODGuidelinesFinal2017_compressed_0.pdf
[81] ¼ mile = 402m, ½ mile = 805m
[82] Washington State Department of Commerce: Growth Management Services. (2023). *Middle Housing in Washington Fact Sheet for Implementing E2SHB 1110* https://deptofcommerce.app.box.com/s/yjo6h53f2jhj1xopbc6lxzo28dsh2h9k
[83] Valdosta-Lowndes Metropolitan Planning Organization. (2024). Transit-Oriented Development Guidelines https://www.sgrc.us/documents/transportation/FY24%20Transit-Oriented%20Development%20Guidebook%20for%20Rural%20and%20Urban%20Areas.pdf

Location	Guidance document	Distance	Additional detail
Dallas, USA	Transit Oriented Development Guidelines[84]	**400m (1/4 mile)**	• Standard buffer zone applied to rapid transit stations

Figure 12: Comparator city approaches to walkable catchments

5 Approaches of other tier 1 councils to implementing Policy 3(c) – walkable catchments

The NPS-UD classifies New Zealand's local authorities into three tiers based on population size and growth rates. This approach allows the most directive policies to be targeted towards the tier 1 areas which are the largest and fastest growing urban centres, where the greatest benefits of intensification can be realised[85]. New Zealand's tier 1 local authorities are listed in column 2 of table 1 of the NPS-UD Appendix. The list of tier 1 urban environments and their corresponding local authorities are shown in Figure 13 below.

Tier 1 urban environment	Tier 1 local authorities
Auckland	Auckland Council
Hamilton	Waikato Regional Council, Hamilton City Council, Waikato District Council, Waipā District Council
Tauranga	Bay of Plenty Regional Council, Tauranga City Council, Western Bay of Plenty District Council
Wellington	Wellington Regional Council, Wellington City Council, Porirua City Council, Hutt City Council, Upper Hutt City Council, Kāpiti Coast District Council
Christchurch	Canterbury Regional Council, Christchurch City Council, Selwyn District Council Waimakariri District Council

Figure 13: Tier 1 urban environments and local authorities

Tier 1 urban environments are directed by the NPS-UD to implement Policy 3(c) – walkable catchments around the city centre, metropolitan centres and rapid transit stops. While the individual context of each tier 1 local authority is different, it would seem logical that each council would have similar walkable catchment responses (but not necessarily exactly the same).

While a generally consistent approach has been taken to walkable catchment distances across the five tier 1 urban areas, each tier 1 area is distinctive. This has resulted in slightly different Policy 3(c) intensification enablement responses overall.

The scale and complexity of the tier 1 urban areas are quite different. Auckland has a large city centre and eleven metropolitan centres of varying sizes, plus a rapid transit network (rail and busway) with 54 stops. Multiple and overlapping walkable catchments are therefore

[84] Dallas Area Rapid Transit. (2020). *Transit Oriented Development Guidelines.* https://www.dart.org/economicdevelopment/DARTTODGuidelines2020.pdf
[85] Ministry for the Environment. 2020. *Introductory guide to the National Policy Statement on Urban Development 2020.* Wellington: Ministry for the Environment.

required in Auckland. Three of the other four urban areas do not have any metropolitan centres or any rapid transit services. Further differences are logical when accounting for topography (e.g. Christchurch is built on a plain whereas Auckland's landform is much more varied with maunga, valleys and ridges). Therefore, absolute national consistency across the tier 1 urban areas is unnecessary.

While Auckland Council is not required to follow the distances for walkable catchments used by other tier 1 local authorities, a comparison exercise is nevertheless useful to determine whether Auckland's walkable catchment distances are significantly different to other tier 1 local authorities and if so, what the reasons for this might be.

Figure 14 below summarises the different walking catchment metrics used by the tier 1 urban areas in New Zealand (including Auckland Council's proposed walkable catchments in PC120). These councils have completed their plan changes to implement Policy 3(c) of the NPS-UD.

The metrics in the table below illustrate that there is a consistency between the walking time metrics each council has used. While each council did its own internal work to come up with their walkable catchment metrics, the consistency can likely be explained through each council's references to well established industry guidelines and academic studies on walkable catchments. However, it is noted that there is variation in the distances each council considers can be walked in 10 minutes (600m – 800m) and in 15 minutes (1,000m – 1,500m).

Walkable Catchment	Tier 1 urban area				
	Auckland	Christchurch	Wellington[86]	Hamilton	Tauranga
City centre Policy 3(c)	15 minutes (1,200m)	15 minutes (1,200m)	15 minutes (Approx. 1,000m)	800m	15 minutes (1,500m)
Metropolitan centres Policy 3(c)	10 minutes (800m)	N/A (would be 800m)	10 minutes (Approx. 600m)	N/A	N/A
Rapid transit stops Policy 3(c)	10 minutes (800m)	N/A (would be 800m)	10 minutes (Approx. 600m)	N/A	N/A

Figure 14: The walkable catchment metrics used by tier 1 local authorities for implementing Policy 3(c) of the NPS-UD

Four of the five tier 1 councils are aligned in determining a walkable catchment for the city centre is around a 15 minute walk. Both Auckland and Christchurch use a proxy of 1,200m for this while Wellington's distance is approximately 1,000m, and the distance used in Tauranga is approximately 1,500m.[87]

PC120 for Auckland proposes a walkable catchment of around a 10 minute walk (800m) for metropolitan centres and rapid transit stops. Wellington has also applied a 10 minute

[86] Rather than a distance calculation, Wellington City Council established a walking time (15 or 10 minutes) and then a GIS analysis used a person's average walking speed to determine the extent of the catchment (i.e. how far could they walk in 15 or 10 minutes). Various impediments to walking (i.e. slopes, road crossings) were mapped and they each reduced the average walking speed for that section, and therefore impacted the spatial extent of the catchment.

[87] The Section 32 documents for the plan changes in Christchurch, Wellington, and Tauranga City all reference that the Centre zone walkable catchment is around a 15 minute walk. The range of distances (1,000m – 1,500m) used for a 15 minute walk therefore will relate to different assumptions around walking speeds and the account given to walking terrains and environments.

walkable catchment from metropolitan centres and rapid transit stops, which in their case equates to around 600m. Auckland and Wellington are the only tier 1 councils with identified metropolitan centres and rapid transit stops. Christchurch had determined an 800m walkable catchment (10 minute walk) would be suitable for these locations, but it currently does not have any identified metropolitan centres or rapid transit stops to which this catchment could be applied. Hamilton and Tauranga do not have any identified metropolitan centres or rapid transit stops.

6 Census travel data for Auckland

The 2018 census provides data on trips to work and trips to education. Through this data the rates of walking from surrounding areas into to the city and metropolitan centres can be quantified. The percentage of people who walk to work overall is relatively low. The percentage of workers arriving by walking to the city centre is 14.9%. The percentages in the metropolitan centres is lower, ranging from 5.8% (Newmarket) down to 0.5% (Manukau).

6.1 City Centre

Figure 15 below shows the 'walk to work' percentages of residents that live in areas surrounding the Auckland city centre and who work in the city centre. It shows that relative to the metropolitan centres, the city centre has a large surrounding area in which a high proportion of people walk to their city centre work destination. There are seven areas[88] around the city centre that have 'walk to work' percentages over 10%, and a further seven areas over 40%.

As depicted on the map, the areas with the higher percentages of people who walk to work in the city centre are around 1km (as the crow flies) from the edge of the City Centre zone (where the 1km buffer is measured from). Therefore, in reality some of the distances walked are likely to be closer to 2km once the actual walking route is considered.[89] In addition, many work destinations will be beyond the edge of the City Centre zone and therefore the distance may be greater.

[88] SA2 areas (Statistics NZ)
[89] The size and shapes of the statistical areas used make definitive distances difficult to determine.

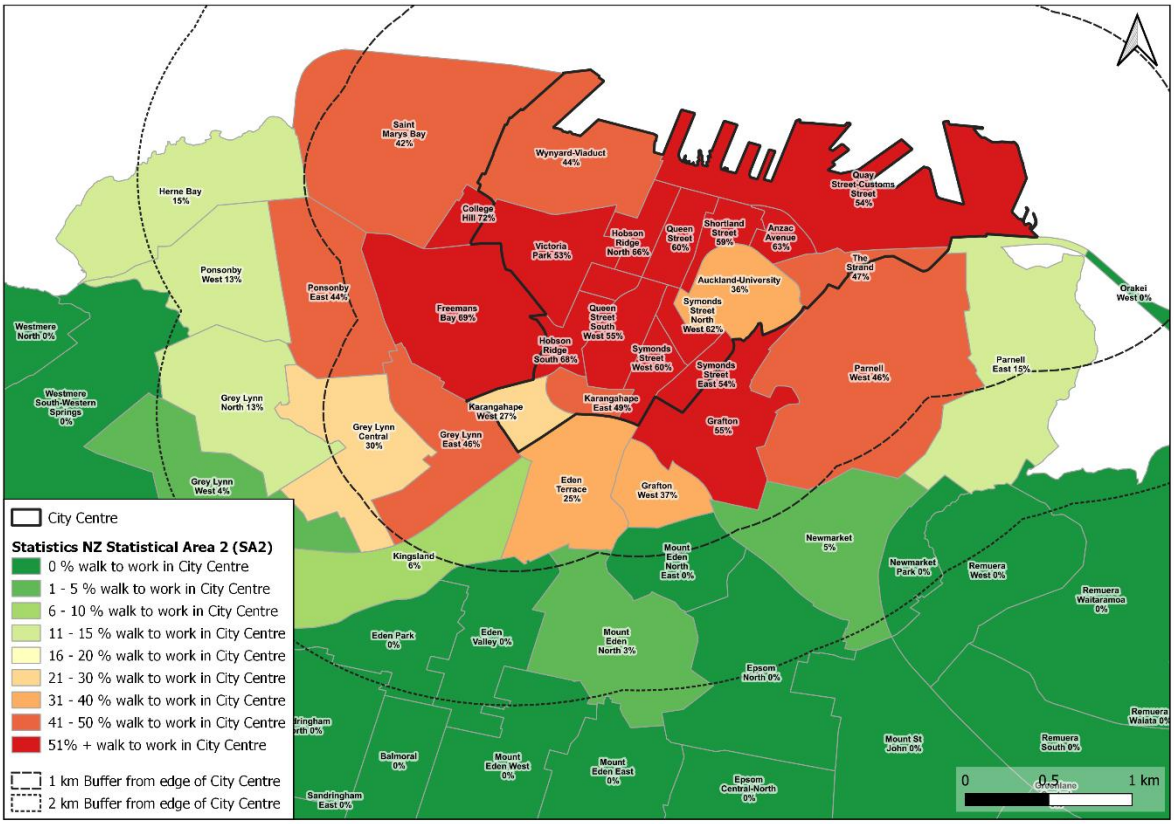

Figure 15: Percentage of residents that walk to their work destination in the city centre

6.2 The metropolitan centres

The census data shows that most of Auckland's eleven metropolitan centres do not have a high proportion of people in the area surrounding each centre that walk to their work destination in the metropolitan centre. Takapuna, New Lynn and (in particular) Newmarket show relatively high proportions of people walking to their metropolitan centre work destination from surrounding areas. However, the other metropolitan centres show that only a small proportion of people in surrounding areas walk to their work destination in those centres. The maps for each of the metropolitan centres are shown in Figures 16-25 below[90].

[90] Note that while the Statistics New Zealand SA2 areas are a close match to the City Centre zone, none of the SA2 areas match the Metropolitan Centre zones. Also note that two Metropolitan Centre zones (Henderson and New Lynn) have parts that are in other SA2 areas (outside the grey area on the maps). More granular SA1 census information on travel to work is unavailable for this exercise.

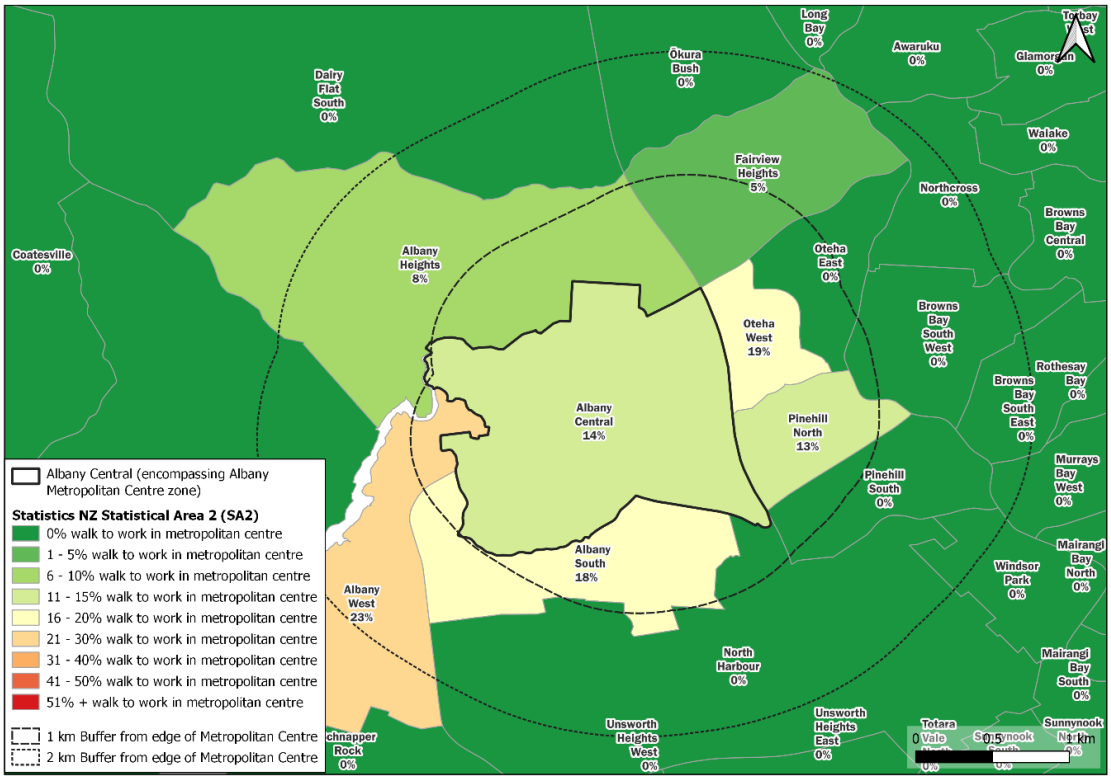

Figure 16: Percentage of residents that walk to their work destination in the Albany metropolitan centre

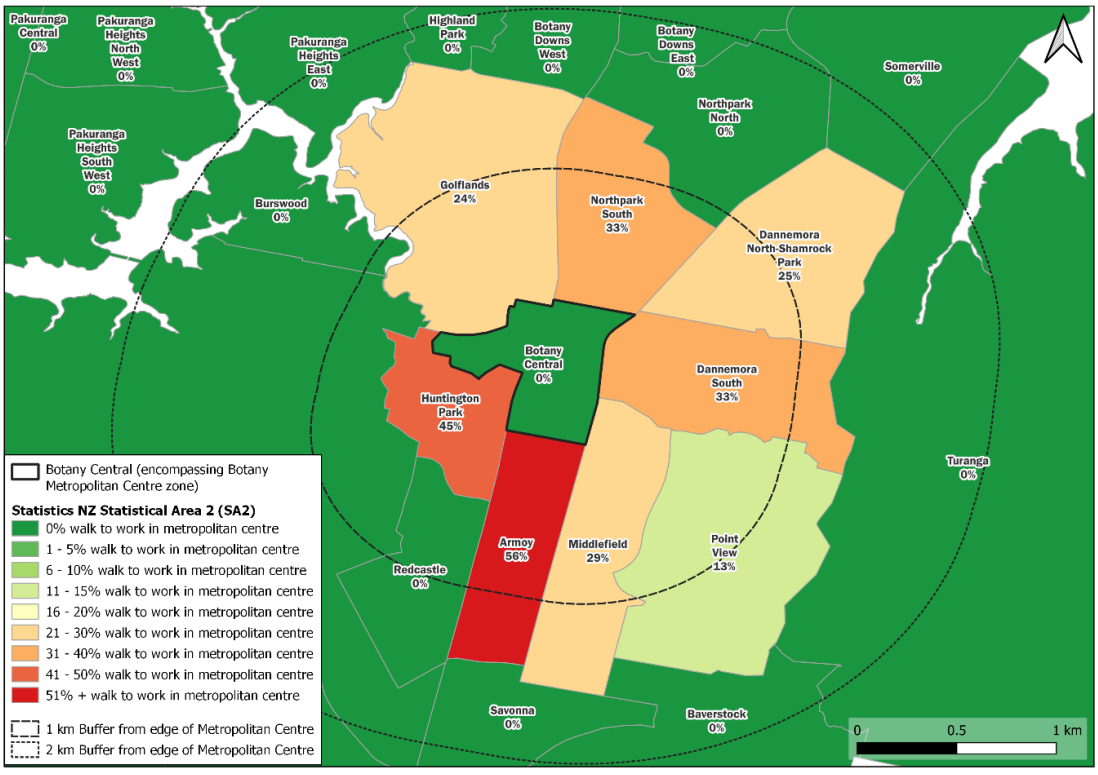

Figure 17: Percentage of residents that walk to their work destination in the Botany metropolitan centre

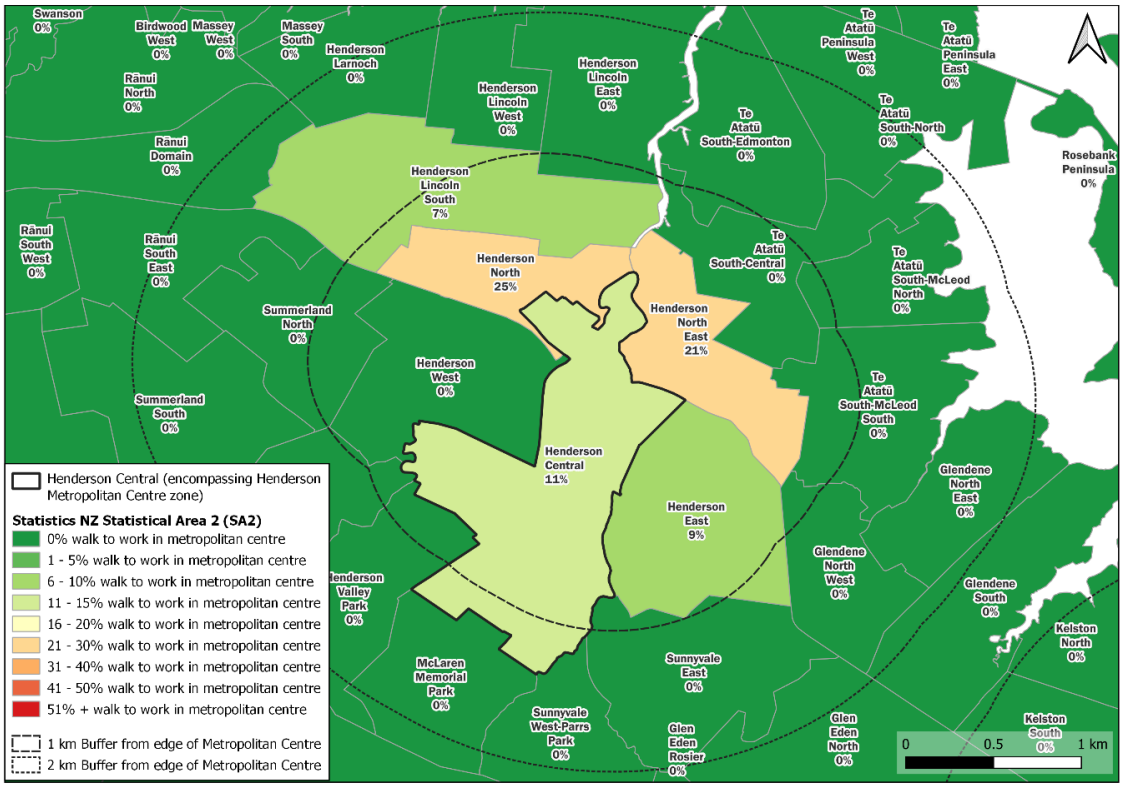

Figure 18: Percentage of residents that walk to their work destination in the Henderson metropolitan centre

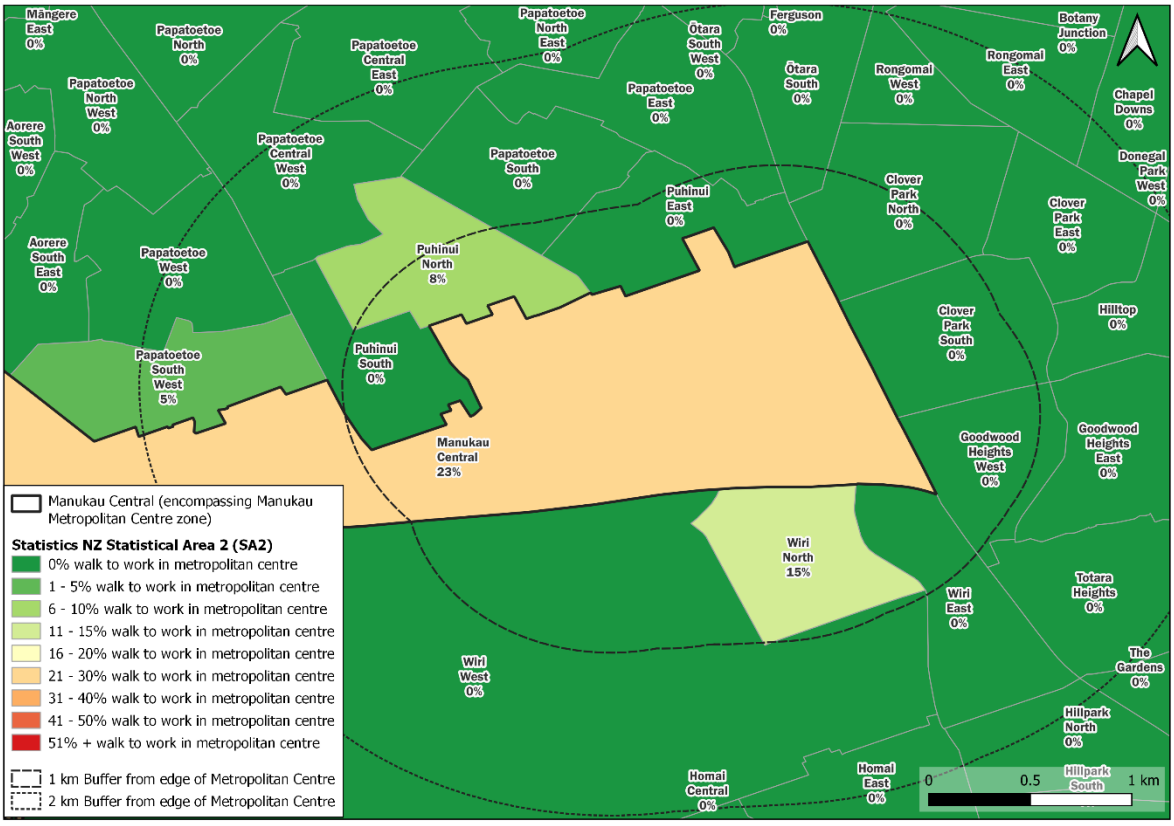

Figure 19: Percentage of residents that walk to their work destination in the Manukau metropolitan centre

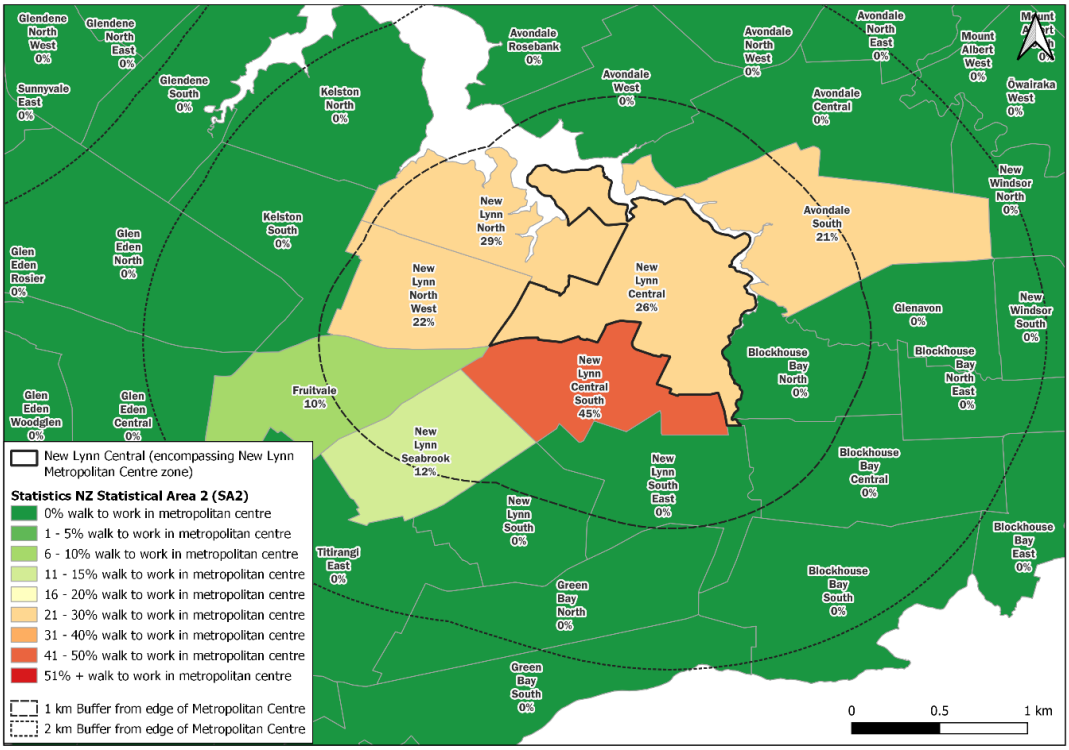

Figure 20: Percentage of residents that walk to their work destination in the New Lynn metropolitan centre

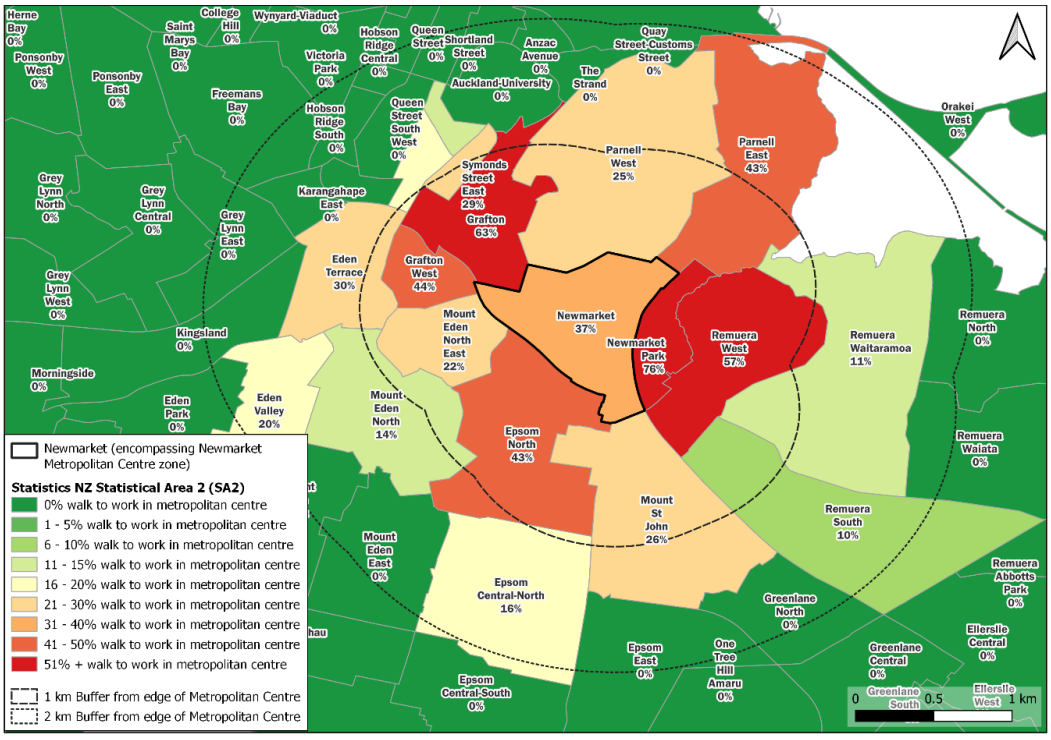

Figure 21: Percentage of residents that walk to their work destination in the Newmarket metropolitan centre

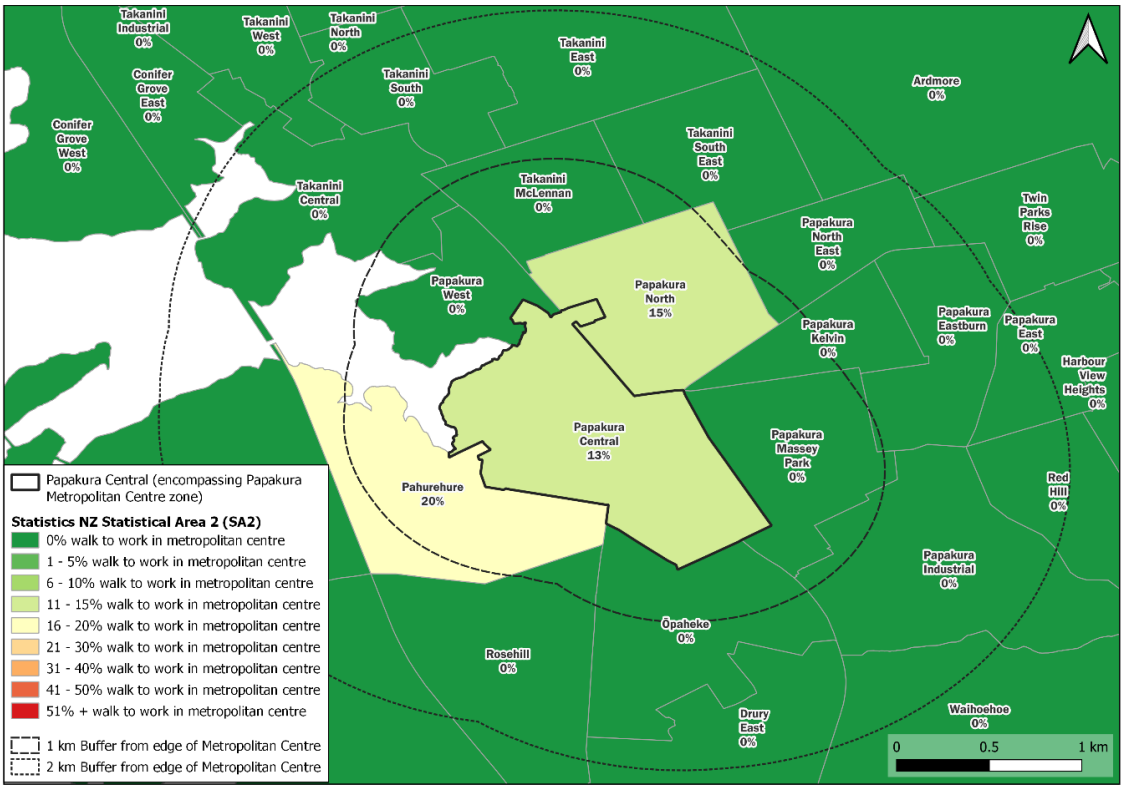

Figure 22: Percentage of residents that walk to their work destination in the Papakura metropolitan centre

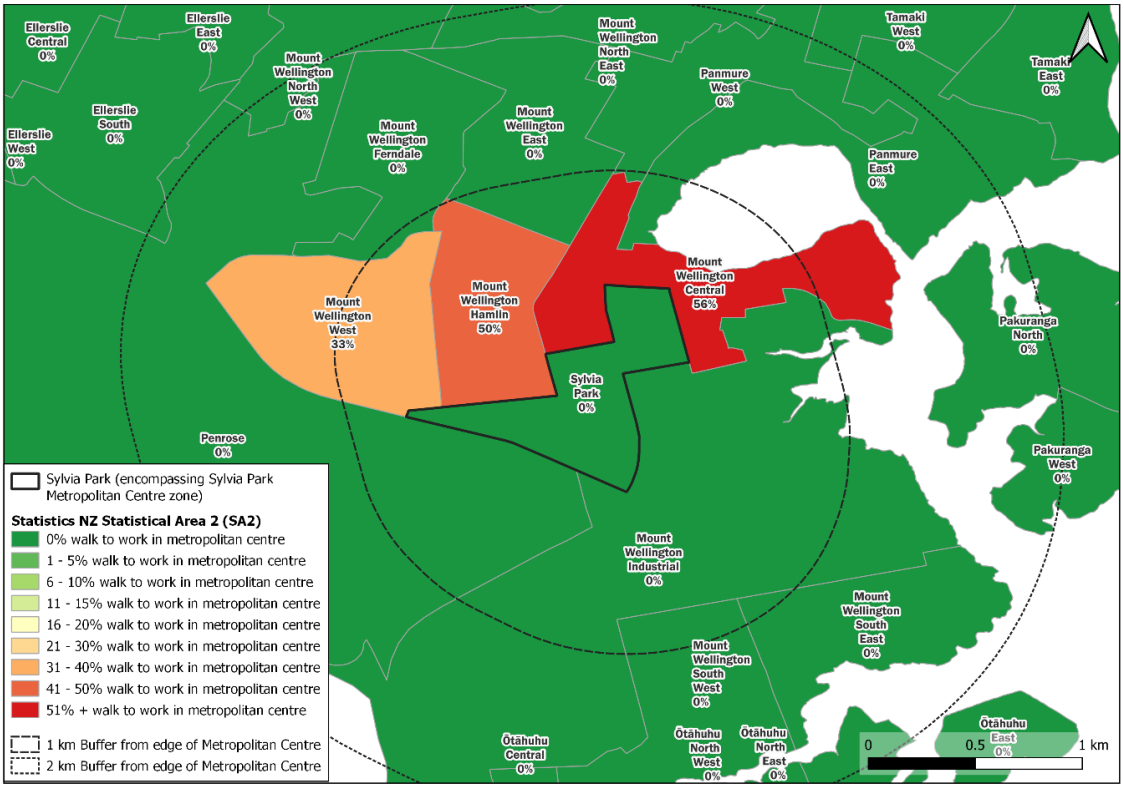

Figure 23: Percentage of residents that walk to their work destination in the Sylvia Park metropolitan centre

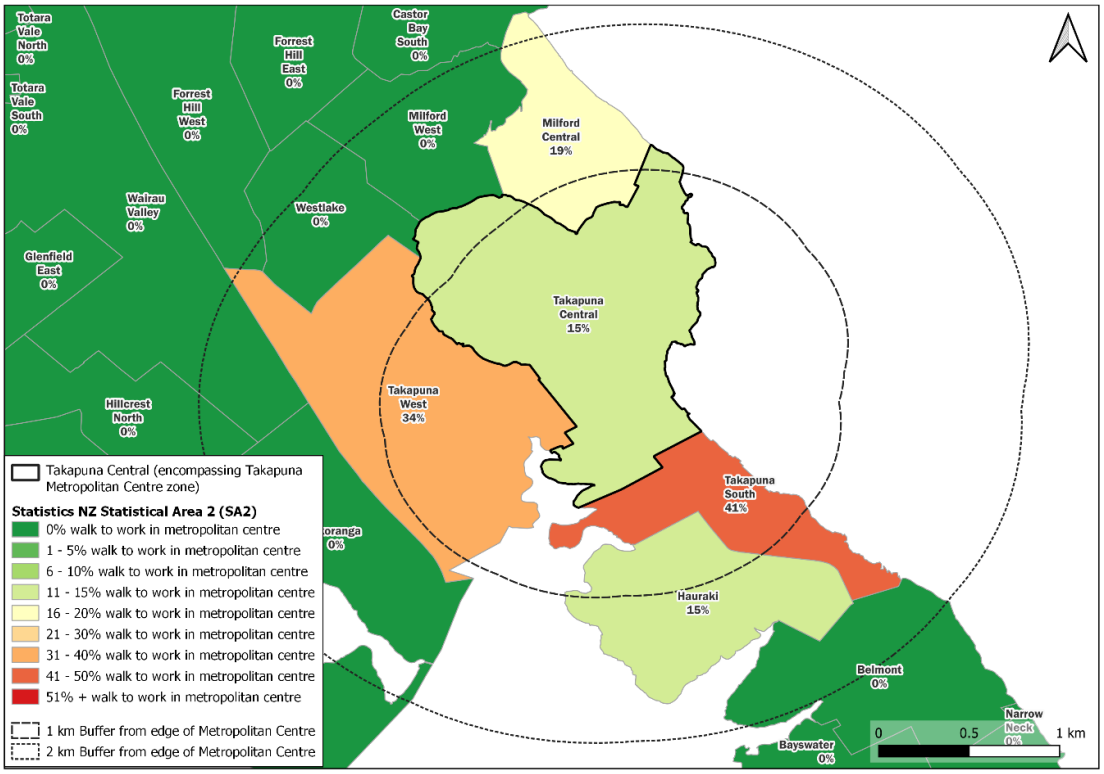

Figure 24: Percentage of residents that walk to their work destination in the Takapuna metropolitan centre

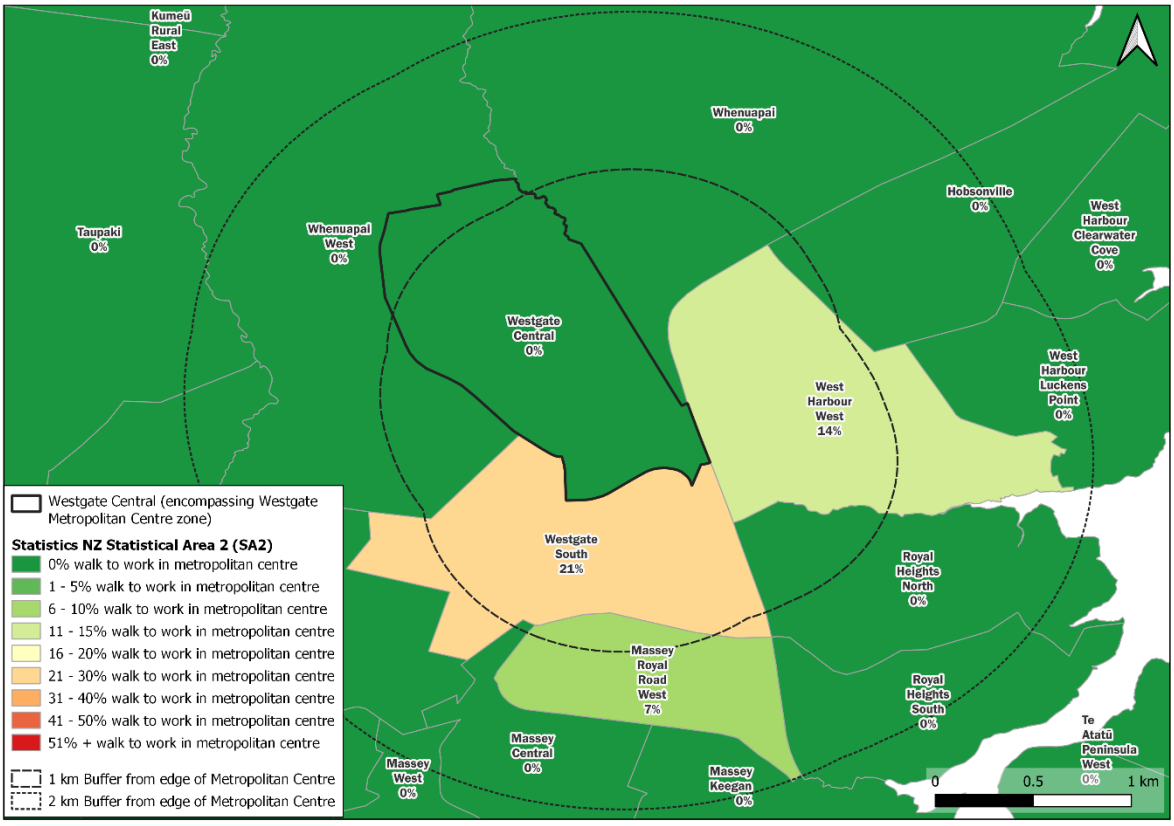

Figure 25: Percentage of residents that walk to their work destination in the Westgate metropolitan centre

7 The nature of the city centre

The city centre is the top of the centres hierarchy and plays a pivotal role in Auckland's present and future success. The city centre is an international centre for business and learning, innovation, entertainment, culture and urban living.[91]

When determining a walkable catchment for the city centre it is useful to understand how Auckland's city centre is different to the eleven metropolitan centres, and the rapid transit stops (that are also directed to have walkable catchments applied to them).

Firstly, the City Centre zone covers a very large area – 258ha. It is acknowledged that this includes around 60ha of Ports of Auckland land that operates quite distinctly from the rest of the zone. However, even accounting for that the City Centre zone still covers some 200ha.

Figure 26 below compares the size of the City Centre zone with Auckland's eleven Metropolitan Centres zones. It illustrates that even the largest Metropolitan Centre zone (Albany at 69ha) is only just over a third of the size of the City Centre zone. On average, Auckland's Metropolitan Centre zones are around one fifth of the size of the City Centre zone.

Centre	Size (ha) [92]	Percentage relative to the City Centre Zone
City Centre zone	≈200	100%
Albany	69	35%
Botany	23	12%
Drury	35	18%
Henderson	51	26%
Manukau	62	31%
New Lynn	44	22%
Newmarket	35	18%
Papakura	24	12%
Sylvia Park	21	11%
Takapuna	21	11%
Westgate	29	15%
Average Metropolitan Centre zone	**38**	**19%**

Figure 26: Zone areas of the city centre and the metropolitan centres

In addition to its much larger size, the City Centre zone also has Auckland's (and New Zealand's) greatest concentration of mid to high rise buildings and far more attractors than any of the eleven metropolitan centres or the rapid transit stops:

Population: The city centre has a residential population of around 40,000.[93] It has one of New Zealand's highest population densities at

[91] H8.1 Business – City Centre Zone description
[92] City Centre zone size excluding the Ports of Auckland land.
[93] Chief Economist Unit, *Insights Paper – Auckland's city centre – good prospects despite recent challenges*, December 2024

	approximately 9,000 people per km². The densest sub-area (Hobson Ridge Central) is around 49,000 per km².[94]
Employment:	As Auckland's commercial hub, the city centre attracts a range of service-focused businesses that value being near to other businesses and transport links that allow good access for employees. It is a highly productive location with a larger number of businesses and knowledge-intensive jobs in a small area. The city centre has the largest concentration of employment in Auckland. It contains around 138,000 jobs which is 16% of the total jobs in Auckland. Auckland city centre is home to most major company national headquarters (e.g. Fonterra, Spark, Banks, Air NZ, TVNZ). The next largest employment zone in Auckland is the 'city fringe' with a further 80,000 jobs (9%). Auckland's metropolitan centres have far less employment in them with the highest being Manukau with around 20,000 jobs (2%).[95]
Entertainment:	The city centre contains a huge number and variety of hospitality venues – over 500 dining venues and over 100 bars and nightlife venues[96]. The city centre is home to theatres (Aotea, Civic, Basement, ASB Waterfront, Sky City, Town Hall) and the Spark Arena (a 12,000 seat arena for sports and entertainment).
Retail:	Around $1.8 billion was spent on retail in the city centre in the year to August 2025[97]. Retail in the city centre includes flagship brands, New Zealand designers, international fashion labels, department stores and specialist retail. There are different shopping districts in the city centre such as Britomart, High Street, and Queen Street.
Civic amenities:	The city centre is home to many civic amenities including the Auckland Town Hall, Central City Library, Art Gallery as well as more public open space (33ha) than the total size of some metropolitan centres. The city centre also hosts major events in sport, music and culture.
Education:	Two of New Zealand's eight universities are located in Auckland's city centre with around 54,000 students[98] in higher education (the greatest concentration in New Zealand).[99]
Tourism:	The city centre is a starting point for international tourism with the cruise ship terminal at Princes Wharf. There is a concentration of accommodation (hotels etc) and tourism

[94] Statistics New Zealand 2023 Population Estimates by SA2.
[95] Stats NZ Business Demographics, as at February 2024, by SA2 area
[96] Based on the database of https://heartofthecity.co.nz/dining and https://heartofthecity.co.nz/auckland-nightlife
[97] Chief Economist Unit Auckland Council, *Marketview monthly card spend*, August 2025. (Note: the data is received from Worldline, the largest electronic card payment network in New Zealand. Monthly numbers include seasonality and inflation effects).
[98] Domestic full-time student totals from AUT and University of Auckland annual reports 2024 (sourced from https://www.hotcity.co.nz/city-centre/results-and-statistics/city-demographics)
[99] Auckland Council. *Auckland City Centre: Summary Sheets*

	venues such as the Sky Tower, Maritime Museum, Convention centre, and the waterfront area.
Connections:	When the City Rail Link is completed the city centre will contain three rapid transit stops (Waitematā,[100] Te Wai Horotiu,[101] and Karanga a Hape). No metropolitan centre has more than one rapid transit stop. The city centre is also a hub for public transport including buses, ferries and trains.

In summary, there is a strong case to treat the City Centre zone walkable catchment differently to those around metropolitan centres and rapid transit stops.

8 Walkable catchments in greenfield areas

Some of Auckland's walkable catchments are adjacent to greenfield land that is either zoned Future Urban or has a 'live' urban zoning but is still greenfield (i.e. no development has occurred yet on the land). This has implications for determining their walkable catchments.

As outlined in **Appendix 1**, the Future Urban zone is outside the "urban environment" to which NPS-UD Policy 3(c) applies and therefore no Future Urban zoned land has been included within any walkable catchments. This results in irregular shaped walkable catchments for Drury Metropolitan Centre, Drury Train Station, and Paerata Train Station. The Ngakoroa Train Station is completely surrounded by Future Urban zoned land and thus has a walkable catchment of zero.

For the 'live' zoned greenfield areas which have not yet been fully developed, the walkable catchments were determined based on the most up to date information for these areas including road and pedestrian network plans in AUP precincts and as shown in resource consents. While neither mean that the roading network must be built exactly as shown (as further resource consents could be approved which override the previous consents) this does provide the most up-to-date information to establish the extent of walkable catchments. This approach was taken for the walkable catchments around the Westgate Metropolitan Centre, Drury Metropolitan Centre, Drury Train Station, and Paerata Train Station.

Rapid transit stops and Metropolitan Centre zones adjacent to Future Urban zoned land will (at some stage) need to have their walkable catchments applied and zoned to enable six storey buildings. This could occur through a plan change (or plan review) when there is more certainty about how the surrounding Future Urban zone will develop and the layout of the road/pedestrian network connecting to the rapid transit stops or metropolitan centres.

The AUP will also need to be updated as new rapid transit stops are planned and/or if any additional land is zoned for a metropolitan centre. Further detail summarising the approach to walkable catchments in greenfield areas is in Appendix 5.

9 What 'at least' a walkable catchment means

Policy 3(c) of the NPS-UD directs the AUP to enable "building heights of at least 6 storeys within **at least** a walkable catchment" [bold added for emphasis] of major centres and rapid transit stops.

[100] Previously referred to as 'Britomart'.
[101] Previously referred to as 'Aotea'.

Where Policy 3 refers to “at least” a walkable catchment this means that the minimum area for enabling buildings of six storeys must be within a walkable catchment. The wording “at least” in Policy 3(c) makes it possible for the area enabling six storeys to go beyond the walkable catchments. However, the boundaries of the walkable catchments themselves do not need to be extended to enable this (as it would make them inconsistent with others across the region).

This approach has been applied in Auckland along some Frequent Transit Network corridors and through amending the standard THAB zoning (which now has a standard height enabling six storeys - 22m rather than 16m).

10 Ministry for the Environment guidance for implementing the NPS-UD

In 2020 MfE produced a guidance document for councils called *“Understanding and implementing intensification provisions for the National Policy Statement on Urban Development”*. The guidance was developed to help local authorities understand and interpret the provisions for intensification in the NPS-UD.

The guidance provides methods, tools, and examples to help implement the provisions (specifically including Policy 3). The guidance can be used to understand the individual components of the intensification provisions (such as “walkability”) to determine the intensification outcomes on the ground.

It is noted that the document is not intended to be a step-by-step guide to preparing plan changes to give effect to the NPS-UD intensification provisions and it has no legal status as a regulatory or policy instrument. Plan changes and outcomes depend on the local context and the guide states that local authorities will need to give effect to the intensification provisions in their local context.

10.1 An 800m (10-minute walk) catchment

The MfE guidance confirms that a walkable catchment of 800 metres is typically associated with a ten-minute average walk[102]. The guidance explains this below:

> “The 800-metre distance was determined by assuming most people would be happy to walk 10 minutes to access services and amenities, and that they walk at a walking speed averaging 1.3 metres per second across the journey.”[103]

The guidance states “a distance of 800 metres from each main entrance to a transit stop is considered a minimum walkable catchment in all urban areas” as it is consistent with long-standing academic and international best practice[104]. The guidance states that “the general rule used by many organisations, including by the Ministry for Environment’s Urban Design Toolkit (Third edition), is that a walkable catchment is often around 800 metres”.[105]

[102] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 5.5
[103] Ibid Section 5.5.2
[104] Ibid Section 5.5.3
[105] Ibid Section 5.5.2

The guidance does however note that each local authority can determine the distance of walkable catchments appropriate for local circumstances and that the final distance can be influenced by a range of factors.

10.2 Different locations can have different sized catchments

The guidance notes that an 800-metre catchment may be a good starting point, but it also may be appropriate for larger tier 1 urban environments to consider greater distances in some situations. Not all destinations (centres, stations) are equal and where there are larger centres with more services and amenities or more connected stations, the walkable catchment can be expected to be larger. This is because people are prepared to walk further to use well connected stations and centres with a larger range of activities.[106]

Additionally, where a centre also has a rapid transit stop located within or close by, it should have a larger walkable catchment than a centre without a rapid transit stop.

10.3 Modifying factors

The guidance suggests that the 800m threshold is *extended* in tier 1 local authorities to account for local factors such as street layout, severance, topography, connectivity, urban amenity, street lighting, passive security, mobility needs, and delays at traffic light-controlled intersections.[107]

However, this list of factors is mostly linked to matters that hinder or slow walking access. Therefore, while the guidance suggests extending the catchment after reviewing these factors, it is often more likely that the threshold would be *reduced* after taking these factors into account. For example, walking up a hill would generally reduce someone's walking speed which would have flow-on effects to how long it would take to cover a certain distance.

[106] Ibid Section 5.5.2
[107] Ibid Section 5.5.3

Appendix 6

New Chapter G2 and G3

New text to be inserted in Chapter G of the AUP:

G2. Walkable Catchments

Policy 3(c) of the National Policy Statement on Urban Development 2020, updated May 2022, requires regional policy statements and district plans in tier 1 urban environments to enable building heights of at least six storeys within at least a walkable catchment of the following:

(i) existing and planned rapid transit stops
(ii) the edge of city centre zones, and
(iii) the edge of metropolitan centre zones.

Auckland is a tier 1 urban environment.

A walkable catchment of around 1,200m is applied from the edge of the Business – City Centre Zone. A walkable catchment of around 800m is applied from both the edge of the Business – Metropolitan Centre Zones and from the pedestrian access points to existing or planned rapid transit stops.

Edge and route modifying factors can result in the extent and area of walkable catchments deviating from the catchment distances stated above (i.e. 1, 200m around the Business – City Centre Zone and the 800m around Business – Metropolitan Centre Zones and rapid transit stops). Route modifying factors amend the walkable catchments with respect to the impact of topography and arterial road crossing points on the route walkability. While edge modifying factors amend catchments to minimise potential adverse interface and boundary effects between land within and land outside the walkable catchments.

The depiction of walkable catchments in the planning maps is a district plan method pursuant to section 75(2) of the Resource Management Act 1991 for implementing the policies of the district and giving effect to the National Policy Statement on Urban Development 2020, updated May 2022.

The planning maps show the location and extent of walkable catchment boundaries, many of which overlap with each other.

The location or extent of a walkable catchment can only be amended by way of a plan change pursuant to Schedule 1 of the Resource Management Act 1991.

Any amendment to the location or extent of a walkable catchment must give effect Policy 3(c) of the National Policy Statement on Urban Development 2020, updated May 2022.

The table below sets out the walkable catchments included in the planning maps, the type of walkable catchment and heights of buildings enabled within them.

G3. Height Variation Controls

The Height Variation Control is applied in identified locations and provides for either greater or lesser heights than the standard height zone, depending on characteristics of the site and surrounds.

Greater height may be provided for through the Height Variation Control where that height is commensurate with the level of commercial activities and community services; is compatible with any qualifying matters and does not result in significant adverse effects on adjacent residential zones; is an efficient use of land; supports public transport and community infrastructure; and aligns with the centres hierarchy, including by supporting the role of centres.

Reduced height may be provided for through the Height Variation Control where the standard zone height would have significant adverse effects on identified special character, identified landscape features, amenity or other qualifying matters.

The Height Variation Control is a district plan land use rule pursuant to Section 9(3) of the Resource Management Act 1991.

The depiction of Height Variation Controls in the planning maps is a district plan method pursuant to section 75(2) of the Resource Management Act 1991 for implementing the policies of the district.

The planning maps show the Height Variation Control applied to relevant sites.

The location or extent of a Height Variation Control can only be amended by way of a plan change pursuant to Schedule 1 of the Resource Management Act 1991.

Where the Height Variation Control is shown with an asterisk (*) on the planning maps, this indicates the presence of another qualifying matter which may impact the ability to achieve the building heights specified in the Height Variation Control.

The table below sets out the walkable catchments where height variation controls, included in the planning maps, enable building heights that are more than the zone standard along with the heights of buildings enabled within them.

Table of Walkable Catchment names and building heights

	Walkable Catchment Name **(† = legislated location)**	**Type**	**Height Method** **(HVC or zone standard)**	**Building Heights (m) in Walkable Catchments**
1.	City Centre (1,200m)	City Centre	HVC	50
2.	Karanga-a-Hape Train Station	Rapid Transit	HVC	50
3.	Te Waihorotiu Train Station	Rapid Transit	HVC	50
4.	Waitematā Train Station	Rapid Transit	HVC	50
5.	Maungawhau Train Station†	Rapid Transit	HVC	50
6.	Parnell Train Station	Rapid Transit	HVC	50
7.	Newmarket Metropolitan Centre	Metropolitan Centre	HVC	50
8.	Grafton Train Station	Rapid Transit	HVC	50
9.	Newmarket Train Station	Rapid Transit	HVC	50
10.	Panmure Train Station	Rapid Transit	HVC	50
11.	Glen Innes Train Station	Rapid Transit	HVC	50
12.	Manukau Metropolitan Centre	Metropolitan Centre	HVC	50
13.	Greenlane Train Station	Rapid Transit	HVC	50
14.	Remuera Train Station	Rapid Transit	HVC	50
15.	Otahuhu Train Station	Rapid Transit	HVC	50
16.	Kingsland Train Station†	Rapid Transit	HVC	50
17.	Manukau Train Station	Rapid Transit	HVC	50
18.	Albany Bus Station	Rapid Transit	HVC	50
19.	Takapuna Metropolitan Centre	Metropolitan Centre	HVC	50
20.	Henderson Metropolitan Centre	Metropolitan Centre	HVC	50

	Walkable Catchment Name **(† = legislated location)**	**Type**	**Height Method** **(HVC or zone standard)**	**Building Heights (m) in Walkable Catchments**
21.	Morningside Train Station†	Rapid Transit	HVC	50
22.	Henderson Train Station	Rapid Transit	HVC	50
23.	Ellerslie Train Station	Rapid Transit	HVC	34.5
24.	Ōrākei Train Station	Rapid Transit	HVC	34.5
25.	New Lynn Metropolitan Centre	Metro Centre	HVC	34.5
26.	New Lynn Train Station	Rapid Transit	HVC	34.5
27.	Albany Metropolitan Centre	Metropolitan Centre	HVC	34.5
28.	Penrose Train Station	Rapid Transit	HVC	34.5
29.	Smales Farm Bus Station	Rapid Transit	HVC	34.5
30.	Puhinui Train Station	Rapid Transit	HVC	34.5
31.	Sylvia Park Metropolitan Centre	Metropolitan Centre	HVC	34.5
32.	Mt Albert Train Station†	Rapid Transit	HVC	34.5
33.	Sunnynook Bus Station	Rapid Transit	HVC	34.5
34.	Pakūranga Bus Station	Rapid Transit	HVC	34.5
35.	Baldwin Ave Train Station†	Rapid Transit	HVC	34.5
36.	Avondale Train Station	Rapid Transit	HVC	34.5
37.	Akoranga Bus Station	Rapid Transit	HVC	34.5
38.	Sylvia Park Train Station	Rapid Transit	HVC	34.5
39.	Westgate Metropolitan Centre	Metro Centre	HVC	34.5
40.	Papatoetoe Train Station	Rapid Transit	HVC	34.5
41.	Constellation Bus Station	Rapid Transit	HVC	34.5
42.	Meadowbank Train Station	Rapid Transit	HVC	34.5

	Walkable Catchment Name **(† = legislated location)**	**Type**	**Height Method** **(HVC or zone standard)**	**Building Heights (m) in Walkable Catchments**
43.	Te Taha Wai Bus Station	Rapid Transit	HVC	34.5
44.	Williams Ave Bus Station	Rapid Transit	HVC	34.5
45.	Manurewa Train Station	Rapid Transit	Zone standard	22
46.	Botany Metropolitan Centre	Metropolitan Centre	Zone standard	22
47.	Drury Metropolitan Centre	Metropolitan Centre	Zone standard	22
48.	Drury Train Station	Rapid Transit	Zone standard	22
49.	Papakura Train Station	Rapid Transit	Zone standard	22
50.	Sturges Rd Train Station	Rapid Transit	Zone standard	22
51.	Koata Bus Station	Rapid Transit	Zone standard	22
52.	Glen Eden Train Station	Rapid Transit	Zone standard	22
53.	Pukekohe Train Station	Rapid Transit	Zone standard	22
54.	Papakura Metropolitan Centre	Metropolitan Centre	Zone standard	22
55.	Fruitvale Rd Train Station	Rapid Transit	Zone standard	22
56.	Middlemore Train Station	Rapid Transit	Zone standard	22
57.	Rosedale Bus Station	Rapid Transit	Zone standard	22
58.	Pōhatu Bus Station	Rapid Transit	Zone standard	22
59.	Homai Train Station	Rapid Transit	Zone standard	22
60.	Rānui Train Station	Rapid Transit	Zone standard	22
61.	Swanson Train Station	Rapid Transit	Zone standard	22
62.	Takaanini Train Station	Rapid Transit	Zone standard	22
63.	Te Mahia Train Station	Rapid Transit	Zone standard	22
64.	Ngākōroa Train Station	Rapid Transit	Zone standard	22

	Walkable Catchment Name **(† = legislated location)**	**Type**	**Height Method** **(HVC or zone standard)**	**Building Heights (m) in Walkable Catchments**
65.	Paerātā Train Station	Rapid Transit	Zone standard	22
66.	Sunnyvale Train Station	Rapid Transit	Zone standard	22

Evaluation: New Chapter G2 Walkable Catchments

The purpose and objective of PC120 is contained in section 3 of this report. The plan change purpose is the (s32) objective and the NPS-UD has been prepared to achieve the purpose of the RMA, focussing on urban development, well-functioning urban environments and in this context, enabling intensification in tier 1 urban environments.

Implementation of NPS-UD Policy 3(c) within the district plan section of the AUP will, in turn, achieve the purpose of the RMA.

As explained throughout this s32 evaluation report, enabling intensification within walkable catchments is a mandatory requirement of NPS-UD Policy 3(c) as the council is a tier 1 local authority required to enable building heights of at least 6 storeys within at least a walkable catchment of the following within Auckland's urban environment:

i. existing and planned rapid transit stops
ii. the edge of city centre zones, and
iii. the edge of metropolitan centre zones.

PC120 walkable catchment provisions include:

a) Identification of walkable catchments within PC120 map viewer, and in some cases application of the height variation control in the same viewer (the s32 evaluation is the subject of this report)
b) Amended district plan provisions: zone chapters include proposed changes to height standards for those zones present inside walkable catchments (the s32 evaluations are the subject of separate reports).
c) Proposed Chapter G2 Walkable Catchments (this appendix).

Chapter G2 records that 'walkable catchments' are a district plan method pursuant to section 75(2) of the RMA and are places within which the council is enabling building heights of at least 6 storeys. Chapter G further records the general size of catchments and that edge and route modifying factors can affect walkable catchment distances. Consideration of walkable catchments' attributes, and their relevance to NPS-UD, is provided in **Appendix 3**.

Evaluation of council's approach to edge and route modifying factors to walkable catchments' boundaries is provided within **Appendix 4**. The evaluation of walkable catchment provisions' appropriateness for achieving the purpose of PC120 can also be found in those appendices, and the main body of this report (particularly sections 6.2 and 6.3).

Proposed Chapter G2 Walkable Catchments is a record of the result of that evaluation, and a summation of the council's approach to satisfying its duty to give effect to Policy 3(c) of NPS-UD and sections 77GA (1) of the Resource Management Amendment Act 2025.

Evaluation: New Chapter G3 Height Variation Controls

For details on determining the enabled heights (beyond the minimum 6 storeys) in walkable catchments, refer to **Appendix 22**.

Appendix 7

Plan methods to enable greater heights and density

1 Plan methods available to enable greater heights and density of urban form

1.1 Background

The AUP has a range of existing methods that could be used to enable greater heights and density of urban form within the walkable catchments. This existing palette of AUP methods can be applied to the specific areas identified for intensification under Policy 3:

- Walkable catchments around the City Centre zone, Metropolitan Centre zones, and rapid transit stops; and
- Within and adjacent to those Neighbourhood, Local and Town Centre zones with commensurate activities and services.

These methods may also be used for intensification applied along specific corridors on the Frequent Transit Network ('**FTN**').

A range of different methods to enable greater heights and density of urban form may be required and the method will often depend on which area it relates to above.

This section outlines a range of methods that could be used to enable greater heights and density of urban form. In addition to the existing methods in the AUP, consideration has been given to the methods available in the National Planning Standards to ensure that any changes to the AUP do not depart from these standards.

The MfE guidance on implementing the intensification provisions of the NPS-UD states that:

> "In giving effect to the intensification provisions, this could mean:
>
> - rezoning areas to enable greater building height and density
> - amending the development standards for an existing zone to enable commensurate heights and densities
>   - there may be instances where most of an existing zone is suitable for intensification, with a small area that might not be suitable…. For consistent zoning outcomes, local authorities may decide to enable greater height and density throughout the zone
> - using other planning tools such as:
>   - precincts: in instances where there are various pockets across urban zones suited to intensification, but it is inappropriate to enable greater building heights and densities across the entire zone, local authorities could consider using a precinct to enable greater heights and densities within specific areas of an existing zone. Refer to Standard 12 (District Spatial Layers Standards) of the National Planning Standards for further information on precincts
>   - specific control: the standards provide for 'specific controls' to spatially identify where a site or area has provisions that are different from other spatial layers, or where district-wide provisions apply to that site or area. Particular areas of a zone may be suited to intensification, but it is inappropriate to enable greater building heights and densities across the whole zone. In these instances, local authorities could

> consider using a specific control to enable greater heights and densities within specific areas of an existing zone. Refer to Standard 12 (District Spatial Layers Standards) of the National Planning Standards for further information on specific controls."[1]

In regard to zoning, the implementation of the NPS-UD into the AUP has resulted in some changes to the zones provisions. The modified versions include amending the zone or precinct height standard (and other standards) in addition to Objectives and Policies to enable building heights of at least six storeys in walkable catchments (i.e. modified versions of the zones that fall within a walkable catchment for the Terrace Housing and Apartment Buildings zone, Mixed Use zone, Business - Town, Local and Neighbourhood Centres zones, Business Park zone, Light Industry zone, Heavy Industry zone).

Further information on the proposed amendments to the AUP zones can be found in the s32 reports of these various chapters.

1.2 Overview of methods

The following list covers the methods to enable greater heights and density of urban form in the specific areas directed by Policy 3 (or along FTN corridors). They are described more fully in the sections below.

- Rezoning:
  - Terrace Housing and Apartment Buildings zone (modified provisions)
  - Mixed Housing Urban zone (with modified provisions)
  - Mixed Use zone (modified provisions)
- Zone standards:
  - Amend zone standards
- Precincts:
  - New precincts
  - Amend existing precincts
- Controls:
  - Height Variation Control
- Overlays:
  - New overlays

1.3 Rezoning

1.3.1 Terrace Housing and Apartment Buildings zone (with modified provisions)

The description[2] of the Residential – Terrace Housing and Apartment Buildings zone ('THAB') in the AUP states that it is a high-intensity zone providing for:

> "…urban residential living in the form of terrace housing and apartments. The zone is predominantly located around metropolitan, town and local centres and the public

[1] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 6.5.5
[2] H6.1 Zone Description

transport network to support the highest levels of intensification. The purpose of the zone is to make efficient use of land and infrastructure, increase the capacity of housing and ensure that residents have convenient access to services, employment, education facilities, retail and entertainment opportunities, public open space and public transport. This will promote walkable neighbourhoods and increase the vitality of centres.

The zone provides for the greatest density, height and scale of development of all the residential zones. Buildings are enabled up to five, six or seven storeys in identified Height Variation Control areas, depending on the scale of the adjoining centre, to achieve a transition in height from the centre to lower scale residential zones. This form of development will, over time, result in a change from a suburban to urban built character with a high degree of visual change."

Applying the THAB zone to residential areas that currently are zoned for less intensity[3] is one method to enable greater building heights and density of urban form.

The current AUP maximum height control in the THAB zone is 16m. This height does not enable 6 storey dwellings (as required under Policy 3(c)). PC120 proposes to increase the maximum height standard in the THAB zone to 22m. The amendments go further than the height standard and also amend any provisions in the zone that would preclude a six storey building from being enabled on a typical site. An assessment of the THAB zone and its ability to enable 6 storey buildings as well as changes proposed to the activities provided for within the zone has been undertaken and further details on this assessment and the changes to the THAB zone can be found in the s32 on the THAB zone.

1.3.2 Mixed Housing Urban (with modified provisions)

The description[4] of the Residential – Mixed Housing Urban zone ('MHU') in the AUP states that it is a reasonably high-intensity zone enabling:

> "…a greater intensity of development than previously provided for. Over time, the appearance of neighbourhoods within this zone will change, with development typically up to three storeys in a variety of sizes and forms, including detached dwellings, terrace housing and low-rise apartments. This supports increasing the capacity and choice of housing within neighbourhoods as well as promoting walkable neighbourhoods, fostering a sense of community and increasing the vitality of centres…"

Applying the MHU zone to residential areas that currently are zoned for less intensity[5] is one method to enable greater building heights and density of urban form.

However, as stated in the zone description the MHU zone enables development of up to three storeys. This height does not enable 6 storey dwellings (as required under Policy 3(c)). While the MHU is being modified through PC120, the height standards will not enable 6 storey buildings. Therefore, using the MHU zone to enable 6 storeys in the walkable catchments would require the addition of a Height Variation Control to increase the maximum height to at least 22m.

[3] The following residential zones in the AUP provide for less intensity than the THAB zone: Rural and Coastal Settlement, Large Lot, Single House, Mixed Housing Suburban, Mixed Housing Urban.
[4] H5.1 Zone Description
[5] The following residential zones in the AUP provide for less intensity than the MHU zone: Rural and Coastal Settlement, Large Lot, Single House, Mixed Housing Suburban.

1.3.3 Mixed Use zone (with modified provisions)

The description[6] of the Business – Mixed Use zone in the AUP states that it:

> "...is typically located around centres and along corridors served by public transport. It acts as a transition area, in terms of scale and activity, between residential areas and the Business – City Centre Zone, Business – Metropolitan Centre Zone and Business – Town Centre Zone. It also applies to areas where there is a need for a compatible mix of residential and employment activities.
>
> The zone provides for residential activity as well as predominantly smaller scale commercial activity that does not cumulatively affect the function, role and amenity of centres. The zone does not specifically require a mix of uses on individual sites or within areas.
>
> There is a range of possible building heights depending on the context. Provisions typically enable heights up to four storeys. Greater height may be enabled in areas close to the city centre, metropolitan centres and larger town centres."

Applying the Mixed Use zone to residential areas that currently are zoned for less intensity[7] is one method to enable greater building heights and density of urban form. However, as well as increased heights and density of urban form, the Mixed Use zone also enables a much broader range of activities to occur beyond residential uses. The other enabled activities include activities such as Drive-thru restaurants, Entertainment facilities, Food and beverage, Offices, Retail, small Supermarkets, Healthcare facilities, Light manufacturing and servicing, Repair and maintenance services, Warehousing and storage, and Tertiary education facilities.

In terms of a planning outcome, a diversity of land use activities around centres and rapid transit stops could lead to positive outcomes. Diversity has been coined as one of the "5Ds" of the built environment as is considered important in achieving successful cities and enhancing public transport use.[8] Without this local diversity people may have to make longer journeys to different activities and are therefore less likely to walk and more likely to do so by car.

However, the application of the Mixed Use zone across large areas could also undermine the role of the centres themselves by dispersing the centre-type activities (retail, office, food and beverage) and leading to 'hollowed-out' centres with a lack of vitality. This is especially relevant due to the significant number of vacant premises in Auckland's centres over the past 5 years and broader trends towards working from home and online shopping. It is not clear yet whether shopping and working habits have undergone significant and lasting structural changes due to the Covid pandemic.

This highlights the risk in enabling additional centre-type activities across a large amount of land surrounding centres. Further information would be required to confirm that the centre zones themselves would not be negatively impacted by large-scale rezoning of residential land to Mixed Use. An excessive oversupply of land for centre-type activities risks the

[6] H13.1 Zone Description
[7] The following residential zones in the AUP provide for less intensity than the THAB zone: Rural and Coastal Settlement, Large Lot, Single House, Mixed Housing Suburban, Mixed Housing Urban.
[8] Reid Ewing & Robert Cervero (2010) *Travel and the Built Environment*, Journal of the American Planning Association, 76:3, 265-294, DOI: 10.1080/01944361003766766 (The 5D's are Density, Diversity, Design, Destination Access and Distance to Transit).

dilution of the centres and potentially undermines the centres based approach in the Auckland Plan and the Regional Policy Statement section of the AUP.

In addition, the Mixed Use zone has fewer residential-specific development standards. This can result in lower amenity outcomes for residential uses in the Mixed Use zone compared to the THAB zone. The Mixed Use zone has only two development standards specifically for residential amenity – outlook space and dwelling size. Unlike the THAB zone, there is no requirement in the Mixed Use zone for outdoor living spaces such as balconies, no daylight standard, and there are minimal landscaping requirements. The objectives, policies, and assessment frameworks of the MUZ and THAB zones also differ significantly with regard to their expectations for residential amenity with the *H13 – Business Mixed Use Zone* chapter being far more limited in this respect that the THAB zone.

It is also noted that the default permitted building height [9] in the Mixed Use zone is 18m (16m of occupiable building height plus 2m for roof form). This height does not enable 6 storey dwellings (as required under Policy 3(c) where a site is located within a walkable catchment). Therefore, where a MUZ site is located within a walkable catchment, the permitted height will 22m (for 6 storeys). HVCs would be required to increase the height in the Mixed Use zone to match the enabled heights in some walkable catchments (i.e. 34.5m for 10 storeys and 50m for 15 storeys).

1.4 Zone standards

1.4.1 Amend existing zone standards

The AUP explains standards as follows:

> "Activities provided for as permitted, controlled or restricted discretionary activities are normally subject to standards. Standards set limits on the extent to which an activity is permitted or may be assessed as a controlled or restricted discretionary activity. Exceedance of a standard normally results in the activity being considered as a more restrictive class of activity.
>
> Standards are located following the activity tables in the overlay, zone, Auckland-wide and precinct provisions."[10]

One method to enable greater building heights and density of urban form is to amend the standards of each zone so that they enable more intensity. Common standards in various zones that could impact on heights and density of urban form include:

- Building height
- Height in relation to boundary
- Yards
- Building setback at upper floors
- Maximum tower dimension and tower separation
- Wind
- Maximum impervious area
- Building coverage

[9] 16m occupiable building height plus 2m for roof form = 18m total building height.
[10] A1.6.6 Standards of the AUP

- Landscaped areas
- Outlook space
- Daylight
- Outdoor living space
- Front, side and rear fences and walls
- Minimum dwelling size

Amendments to zone standards that enable greater heights and density of urban form could also require consequential amendments to the zone objectives, policies, and other rules.

The intensification directions under Policy 3(c) and 3(d) (as well intensification applied along some FTN corridors) will apply to a range of existing AUP zones which all have specific zone standards. The zones affected by these directives are:[11]

- Residential – Single House zone
- Residential – Mixed Housing Suburban zone
- Residential – Mixed Housing Urban zone
- Residential – Terrace Housing and Apartment Buildings zone
- Business – Mixed Use zone
- Business – Town Centre zone
- Business – Local Centre zone
- Business – Neighbourhood Centre zone
- Business – Light Industry
- Business – Heavy Industry
- Business – General Business
- Business – Office Park

For land within the walkable catchments, any amendments to the zone standards could be applied specifically to only where that part of the zone is within a walkable catchment. As outlined in Error! Reference source not found.**Appendix 6**, the walkable catchments are a spatially demarcated layer on the planning maps and are referred to Chapter G so it is clear which land is inside and outside the walkable catchments.

1.5 Precincts

1.5.1 Amend existing precinct provisions

The intensification directions under Policy 3(c) and 3(d) (as well intensification applied along some FTN corridors) will apply to some areas that are covered by existing AUP precincts. A precinct sits on top of the underlying zoning and can "enable local differences to be recognised by providing detailed place based provisions which can vary the outcomes sought by the zone or Auckland-wide provisions and can be more restrictive or more enabling."[12]

[11] The intensification directions under Policy 3 impact on nearly all the urban zones in the AUP including the residential, business, open space, and special purpose zones.
[12] A1.6.5 of the AUP

One method to enable greater building heights and density of urban form is to amend the precinct provisions so that they enable more intensity. This could include amending the precinct objectives, policies, and rules (including standards).

1.5.2 New precincts

Another method to enable greater building heights and density of urban form for the areas directed by Policy 3(c) and 3(d) (as well intensification applied along some FTN corridors) is to retain the underlying zonings but apply a new precinct with provisions that enable more intensity. This would involve creating a new precinct (or precincts) with specific objectives, policies, and rules.

For example, under Policy 3(c) a new 'walkable catchments' precinct could be applied to the land within the walkable catchments. The precinct provisions could enable greater heights and density of urban form than the underlying zonings would have otherwise enabled.

1.6 Controls

1.6.1 Height Variation Control

The Height Variation Control is a zone rule which has a spatial component and is identified on the planning maps. It varies the usual maximum height standard in a zone to enable greater or lesser height.

One method to enable greater building heights and density of urban form is to apply a new Height Variation Control to areas that the Policy 3(c) and 3(d) directions apply (as well intensification applied along some FTN corridors) or amend existing Height Variation Controls where they already apply.

1.7 Overlays

1.7.1 New Overlay

Overlays in the AUP manage the protection, maintenance or enhancement of particular values associated with an area.

> "Overlays can apply across zones and precincts and overlay boundaries do not follow zone or precinct boundaries. Overlays can also manage specific planning issues.
>
> Overlays generally apply more restrictive rules than the Auckland-wide, zone or precinct provisions that apply to a site, but in some cases they can be more enabling. Overlay rules apply to all activities on the part of the site to which the overlay applies unless the overlay rule expressly states otherwise. Overlay provisions are located in Chapter D of the Plan and overlays are identified on the planning maps."[13]

One method to enable greater building heights and density of urban form is apply a new 'NPS-UD overlay' to areas that the Policy 3(c) and 3(d) directions apply (as well intensification applied along some FTN corridors).

[13] A1.6.2 of the AUP

1.8 What are the relevant zones to receive additional height within a Policy 3 area?

Relevant zones within Policy 3(c) and 3(d) areas that are considered appropriate for additional height beyond six storeys are Terraced Housing and Apartment (THAB), Mixed Use, Town/Local/Neighbourhood Centres, and Business Park.

Policy 2 of the NPS UD requires all Tier 1 local authorities, to provide sufficient development capacity to meet expected demand for housing and business land.

As outlined, applying the THAB zone to residential areas that currently are zoned for less intensity[14] is one method to enable greater building heights and density of urban form. This zone provides for the greatest density, height and scale of development of all the residential zones. The zone should make efficient use of land and infrastructure, increase the capacity of housing and ensure that residents have convenient access to services, employment, education facilities, retail and entertainment opportunities, public open space and public transport. This will promote walkable neighbourhoods and increase the vitality of centres.

Mixed use, Town/Local and Neighbourhood centres vary in terms of the planning frameworks and respective activities that they enable. However, generally these zones provide for the needs of residential properties (retail and conveniences) in addition to providing locations for employment and dwellings. Where residential intensification is proposed within a walkable catchment or adjacent to a Town or Local centre (or along a FTN corridor) there is logic in increasing the services and employment opportunities also available in that area and also enabling residential intensification in that centre zone itself. Furthermore, dependant on the zone there may be differences in the resulting urban form. Increasing the height in these zones best aligns with the Regional Policy Statement and creates a transition from centres to surrounding neighbourhoods.

While the Light and Heavy Industry zones also provide opportunities for employment there are not the same drivers for use and need for additional height in these zones. For further detail on the rationale for Light and Heavy Industry zones remaining as 22m (as is proposed by PC120) in walkable catchments where HVCs for other zones have been enabled beyond 22m, refer s32 QM Business Zones.

[14] The following residential zones in the AUP provide for less intensity than the THAB zone: Rural and Coastal Settlement, Large Lot, Single House, Mixed Housing Suburban, Mixed Housing Urban.

Appendix 8

Policy 3(d): A background and interpretation of key terms

1 Policy 3(d): A background and interpretation of key terms

Policy 3(d) states:

> "In relation to tier 1 urban environments, regional policy statements and district plans enable:…(d) within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and densities of urban form commensurate with the level of commercial activity and community services."

Policy 3(d) directs intensification adjacent to neighbourhood, local and town centre zones. The level of intensification is directed to be 'commensurate' with the level of commercial activity and community services in the centre. Before Policy 3(d) can be implemented, a clear understanding of all the terms in it is required.

1.1 What are commercial activities?

The term 'commercial activity' is not separately defined in the NPS-UD. However, 'commercial activities' are defined in the AUP as "the range of commercial activities including offices, retail and commercial services providers." The commerce nesting table in J1.3.1 of the AUP shows that commercial activities includes all the following activities:

- Offices
- Retail
    - Food and beverage
        - Bars and taverns
        - Restaurants and cafes
        - Drive-through restaurant
    - Dairies
    - Show home
    - Large format retail
        - Supermarket
        - Department store
    - Trade supplier
    - Service station
    - Markets
    - Marine retail
    - Motor vehicle sales
    - Garden centres

- Commercial services
    - Veterinary clinic
    - Funeral director premise
    - Commercial sexual services

- Entertainment facilities

The National Planning Standards (2019) also has a definition of ‘commercial activity’. It means “any activity trading in goods, equipment or services. It includes any ancillary activity to the commercial activity (for example administrative or head offices).”

1.2 What are community services?

The term ‘community services’ is defined in the NPS-UD as below.

> “community services means the following:
>
> a) community facilities
> b) educational facilities
> c) those commercial activities that serve the needs of the community”

There are no further definitions for (a) to (c) in the NPS-UD.

1.2.1 Community facilities

Sub-part (a) of the definition of ‘community services’ refers to ‘community facilities’. The AUP defines ‘community facilities’ as:

> “Facilities for the wellbeing of the community, generally on a not for profit basis.
>
> Includes:
>
> - arts and cultural centres (including art galleries and museums);
> - places of worship;
> - community centres;
> - halls;
> - libraries;
> - marae;
> - Citizens Advice Bureau;
> - community correction facilities; and
> - justice facilities.
>
> Excludes:
>
> - entertainment facilities;
> - care centres; and
> - healthcare facilities.
>
> This definition is nested within the Community nesting table.”

The National Planning Standards (2019) also has a definition of ‘community services’. It “means land and buildings used by members of the community for recreational, sporting, cultural, safety, health, welfare, or worship purposes. It includes provision for any ancillary activity that assists with the operation of the community facility.”

1.2.2 Educational facilities

Sub-part (b) of the definition of 'community services' refers to 'educational facilities'. The AUP defines an 'education facility' as:

> "Facility used for education to secondary level.
>
> Includes:
>
> - schools and outdoor education facilities; and
> - accommodation, administrative, cultural, religious, health, retail and communal facilities accessory to the above.
>
> Excludes:
>
> - care centres; and
> - tertiary education facilities.
>
> This definition is nested within the Community nesting table."

The National Planning Standards (2019) also has a definition of 'educational facility'. It "means land or buildings used for teaching or training by child care services, schools, or tertiary education services, including any ancillary activities."

1.2.3 Commercial activities that serve the needs of the community

Sub-part (c) of the definition of 'community services' refers to 'commercial activities that serve the needs of the community'. There is no definition in the AUP for this phrase, nor in the National Planning Standards (2019).

Based on its ordinary meaning, this phrase is broad and likely encompasses a very wide range of commercial activities. Essentially, 'Commercial activities that serve the needs of the community' is a category or sub-set of 'commercial activities'. As outlined above, commercial activities are activities that trade in goods, equipment or services and include things like offices, retail and commercial services.

To understand what is meant under sub-part (c) of the definition of 'community services', commercial activities can be classified into two types:

- Commercial activities that serve the needs of the community
- Commercial activities that **do not** serve the needs of the community

The difference between the two types being whether they serve the needs of the community or not. To determine whether the needs of the community are met, the community itself needs to be defined.

The word 'community' has the ordinary meaning of "a unified body of individuals"[1] and could refer to people with common interests or characteristics. In this case, it is considered that the word 'community' means people with the common characteristics of living or working in a particular area (i.e. the community that lives and works in and around a particular neighbourhood, local, or town centre in Auckland).

The ordinary meaning of the phrase 'serve the needs' is "to provide things that someone or something needs".[2] Commercial activities by their very nature are linked to providing the

[1] https://www.merriam-webster.com/dictionary/community
[2] https://www.merriam-webster.com/dictionary/serve%20the%20needs

needs (or wants[3]) of a community. This is because it is the objective of a commercial activity to make a profit and to make a profit it needs customers (i.e. the community) to need (or want) the product or service. If the community does not need or want the product or service, the commercial activity will not make a profit and will ultimately fail (i.e. close, shut-down, cease to operate). Therefore, all commercial activities exist to meet the needs (or wants) of the community.

Based on this, it is considered that 'commercial activities that serve the needs of the community' has the same meaning as 'commercial activities' (as covered in an above section of this report).

Therefore, the reference in sub-part (c) of the definition of 'community services' to 'commercial activities that serve the needs of the community' is somewhat circular. It essentially just means the same as the term 'commercial activity' that is already covered by the wording of Policy 3(d) ("…the level of commercial activity and community services").

1.3 The area being measured for the levels of activities and services

The wording of policy 3(d) is slightly vague on what area is to be measured for the levels of activities and services.

> "enable...within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and densities of urban form commensurate with the level of commercial activity and community services."

The subject of the sentence is the neighbourhood/local/town centre zones. The levels of commercial activity and community services are therefore those activities and services in those zones.

Interpreting Policy 3(d) in this way essentially adds the missing (but logical) wording to the end of the sentence as follows:

> "enable...within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and densities of urban form commensurate with the level of commercial activity and community services <u>in those zones</u>."

A logical interpretation is that Policy 3(d) is referring to the specific levels of activities and services in each of Auckland's individual neighbourhood, local, and town centre zones (i.e. measured within the centre zone boundary).

High levels of activities and services in a particular centre zone would then need to be reflected in the densities and heights of the centre zone itself ('within') and around it ('adjacent land').

[3] A person's basic 'needs' are generally considered to be food, water and shelter. However, the line between needs vs wants is blurred. While eating is a need, is eating meat or dairy products a need or a want? One person's needs can be another person's wants and vice versa. This report does not seek to solve this age-old issue, but rather this report assumes that the term 'needs' in this context can also include 'wants'.

Appendix 9

Determining the levels of activities and services in centres

Levels of activities and services in neighbourhood, local and town centre zones in Auckland

Neighbourhood centres are typically very small sets of shops and can even be standalone dairies or service stations. All neighbourhood centres are deemed to have very low levels of commercial activities and community services.

As explained in the main body of this s32 report, a proxy for the levels of commercial activities and community services in each local and town centre has been calculated using the centre hierarchy, size (zone footprint), and the accessibility score of the centre.

The zoning hierarchy is split into two categories:

- Local Centre zone
- Town Centre zone

The size (zone footprint) is split into two categories:

- Small
- Large

The threshold for small/large for local centres is 2.1ha. The threshold for small/large for town centres is 10ha. This is based around the median of the centre sizes.

The accessibility score is split into two categories:

- Low
- High

The accessibility scores are based on Auckland Council's Framework for Urban Access ('**FUA**') methodology (see **Appendix 2**) and calculated by the FUA tool. The FUA methodology uses a combination of validated Auckland Council data and frequently updated public datasets to analyse access by public transport and/or walking to a range of opportunities (e.g. jobs, people, shops, schools) across the urban area of Auckland.

To reflect the relative importance of different trip purposes, the results for each opportunity type are weighted using proportions from the New Zealand Household Travel Survey (HHTS). The HHTS is run by the Ministry of Transport and is the most comprehensive dataset available in New Zealand for understanding trip purpose distribution, both nationally and regionally. The result is a comparable 'access score' (between 0 and 1) at high spatial resolution across the Auckland urban area.

The threshold score for low/high access for local centres is 0.63. The threshold score for low/high access for town centres is 0.67. The selection of these thresholds was to prevent intensification being required around more remote town and local centres (e.g. in rural settlements).

The raw results of applying this methodology for all the local centres in Auckland is shown in Table 1 below and for all the town centres in Table 2.

Tables 3 and 4 at the end of this Appendix groups the centres according to the categories that are deemed to have high level of activities and services. These are the centres that have adjacent intensification applied to them under Policy 3(d).

#	Local Centres	Size (ha)	Size (Small/Large)	Access score (FUA)	Access (High/Low)
1	Addison	3.6	Large	0.593	Low
2	Albany Village	8.4	Large	0.748	High
3	Balmoral	4.7	Large	0.770	High
4	Beach Haven	1.0	Small	0.717	High
5	Beachlands	4.1	Large	0.600	Low
6	Beachlands South	7.0	Large	0.291	Low
7	Belmont	1.3	Small	0.715	High
8	Blockhouse Bay	2.9	Large	0.718	High
9	Botany Junction	3.6	Large	0.688	High
10	Chatswood	2.9	Large	0.696	High
11	Clendon	6.0	Large	0.712	High
12	Dawsons Road	3.0	Large	0.667	High
13	Drury	2.8	Large	0.644	High
14	Eden Valley	6.8	Large	0.765	High
15	Favona	2.3	Large	0.627	Low
16	Glendene	1.9	Small	0.660	High
17	Grafton	0.8	Small	0.803	High
18	Green Bay	0.8	Small	0.698	High
19	Greenlane West	3.3	Large	0.803	High
20	Greenwoods Corner	1.5	Small	0.757	High
21	Greville	4.7	Large	0.598	Low
22	Grey Lynn	3.1	Large	0.789	High
23	Gulf Harbour	2.5	Large	0.557	Low
24	Half Moon Bay	1.4	Small	0.644	High
25	Hauraki Corner	0.9	Small	0.702	High
26	Hingaia	1.7	Small	0.571	Low

#	Local Centres	Size (ha)	Size (Small/Large)	Access score (FUA)	Access (High/Low)
27	Hobsonville	5.9	Large	0.672	High
28	Homai	0.5	Small	0.709	High
29	Jervois Road	2.5	Large	0.723	High
30	Karaka	2.7	Large	0.358	Low
31	Kaukapakapa	1.9	Small	0.453	Low
32	Kelston	2.3	Large	0.694	High
33	Kepa Road / Eastridge	3.3	Large	0.733	High
34	Kingseat	7.7	Large	0.504	Low
35	Kingsland	1.6	Small	0.760	High
36	Leigh	1.3	Small	0.549	Low
37	Long Bay	2.2	Large	0.595	Low
38	Lynfield	3.6	Large	0.649	High
39	Mairangi Bay	2.2	Large	0.701	High
40	Mangere Bridge	1.0	Small	0.734	High
41	Mangere East	3.7	Large	0.719	High
42	Market Road	1.1	Small	0.777	High
43	Massey West	8.5	Large	0.611	Low
44	Matakana	5.0	Large	0.617	Low
45	Meadowbank	3.9	Large	0.722	High
46	Meadowlands	6.0	Large	0.709	High
47	Mission Bay	1.1	Small	0.645	High
48	Morningside	1.4	Small	0.744	High
49	Mt Eden	2.0	Small	0.783	High
50	Mt Roskill	2.2	Large	0.769	High
51	Mt Wellington	2.9	Large	0.726	High
52	Northcross	1.2	Small	0.623	Low
53	Paerātā	17.8	Large	0.156	Low

#	Local Centres	Size (ha)	Size (Small/Large)	Access score (FUA)	Access (High/Low)
54	Panama Road	1.2	Small	0.657	High
55	Rānui	3.3	Large	0.633	Low
56	Redhills	8.1	Large	0.352	Low
57	Riverhead	0.9	Small	0.452	Low
58	Sandringham	1.7	Small	0.735	High
59	Snells Beach	7.5	Large	0.611	Low
60	St Heliers	1.7	Small	0.706	High
61	Sturges	0.5	Small	0.529	Low
62	Sunnyvale	0.3	Small	0.599	Low
63	Swanson	1.4	Small	0.636	High
64	Te Atatū South	4.8	Large	0.671	High
65	Te Hana	2.4	Large	0.493	Low
66	Titirangi	4.8	Large	0.537	Low
67	Torbay	0.9	Small	0.682	High
68	Waiata Shores	1.9	Small	0.665	High
69	Waimauku	2.0	Small	0.613	Low
70	Wainui	6.7	Large	0.122	Low
71	Waiuku	11.7	Large	0.635	Low
72	Warkworth	2.6	Large	0.449	Low
73	West Lynn	1.8	Small	0.730	High
74	Whenuapai	3.3	Large	0.510	Low
75	Windsor Park	1.7	Small	0.654	High

Table 1: All local centres showing size and access

#	Town Centres	Size (ha)	Size (Small/Large)	Access score (FUA)	Access (High/Low)
1	Avondale	11.8	Large	0.733	High
2	Birkenhead	11.5	Large	0.769	High
3	Browns Bay	10.7	Large	0.698	High
4	Devonport	4.4	Small	0.698	High
5	Ellerslie	2.3	Small	0.865	High
6	Glen Eden	9.7	Small	0.759	High
7	Glen Innes	11.3	Large	0.763	High
8	Glenfield	6.8	Small	0.707	High
9	Green Lane	6.1	Small	0.767	High
10	Helensville	8.5	Small	0.650	Low
11	Highland Park	10.1	Large	0.703	High
12	Howick	7.3	Small	0.718	High
13	Hunters Corner	17.2	Large	0.697	High
14	Karaka	15.3	Large	0.358	Low
15	Kumeū - Huapai	11.6	Large	0.627	Low
16	Mangere	25.1	Large	0.737	High
17	Manurewa	12.7	Large	0.742	High
18	Milford	6.6	Small	0.742	High
19	Mt Albert	2.9	Small	0.767	High
20	Newton - Upper Symonds St	5.0	Small	0.827	High
21	Northcote	3.3	Small	0.806	High
22	Onehunga	17.2	Large	0.757	High
23	Orewa	9.8	Small	0.662	Low
24	Ormiston	18.1	Large	0.654	Low
25	Ōtāhuhu	14.1	Large	0.741	High
26	Ōtara	5.5	Small	0.711	High
27	Pakūranga	11.2	Large	0.699	High
28	Panmure	14.3	Large	0.705	High

#	Town Centres	Size (ha)	Size (Small/Large)	Access score (FUA)	Access (High/Low)
29	Papatoetoe	10.8	Large	0.783	High
30	Parnell	7.1	Small	0.749	High
31	Ponsonby	14.0	Large	0.796	High
32	Pt Chevalier	4.9	Small	0.788	High
33	Pukekohe	14.6	Large	0.658	Low
34	Remuera	3.5	Small	0.773	High
35	Royal Oak	10.4	Large	0.747	High
36	Silverdale	23.9	Large	0.628	Low
37	St Lukes	11.4	Large	0.728	High
38	Stoddard Rd	13.9	Large	0.675	High
39	Sunnynook	2.1	Small	0.796	High
40	Takanini	14.8	Large	0.663	Low
41	Te Atatū North	4.5	Small	0.692	High
42	Three Kings	4.5	Small	0.774	High
43	Warkworth	11.7	Large	0.628	Low
44	Wellsford	8.8	Small	0.616	Low
45	Whangaparaoa	5.8	Small	0.635	Low

Table 2: All town centres showing size and access

Large local centres with a high access (23):	
1	Albany Village
2	Balmoral
3	Blockhouse Bay
4	Botany Junction
5	Chatswood
6	Clendon
7	Dawsons Road
8	Eden Valley
9	Greenlane West
10	Grey Lynn
11	Hobsonville
12	Jervois Road
13	Kelston
14	Kepa Road / Eastridge
15	Lynfield
16	Mairangi Bay
17	Mangere East
18	Meadowbank
19	Meadowlands
20	Mt Roskill
21	Mt Wellington
22	Te Atatū South
23	Drury

Table 3: Local centres with high levels of activities and services

Small or large Town Centres with high access (34):	
1	Avondale
2	Birkenhead
3	Browns Bay
4	Devonport
5	Ellerslie
6	Glen Eden
7	Glen Innes
8	Glenfield
9	Green Lane
10	Highland Park
11	Howick
12	Hunters Corner
13	Mangere
14	Manurewa
15	Milford
16	Mt Albert
17	Newton - Upper Symonds St
18	Northcote
19	Onehunga
20	Otahuhu
21	Ōtara
22	Pakūranga
23	Panmure
24	Papatoetoe
25	Parnell
26	Ponsonby
27	Pt Chevalier
28	Remuera
29	Royal Oak
30	St Lukes
31	Stoddard Rd
32	Sunnynook
33	Te Atatū North
34	Three Kings

Table 4: Town centres with high levels of activities and services

Appendix 10

Interpretation of ‘adjacent’

1 What does ‘adjacent’ mean?

Policy 3(d) requires the council to enable heights and densities on land within and ‘adjacent’ to neighbourhood, local, and town centres. The term ‘adjacent’ is not defined in the Resource Management Act 1991 (‘**RMA**’) or in *Chapter J – Definitions* of the Auckland Unitary Plan (‘**AUP**’).

The Hauraki Gulf Islands (‘**HGI**’) District Plan, which is still the district plan in force for the HGI does have a definition for ‘adjacent’ which states “Adjacent means being near or close but not necessarily contiguous”.[1] While this is useful to add into the discussion of interpreting how ‘adjacent’ should be applied, it is noted that the HGI District Plan does not apply to the majority of Auckland.

1.1 Feedback to the government on the term ‘adjacent’ in Policy 3(d)

The term ‘adjacent’ was added to Policy 3(d) of the National Policy Statement on Urban Development (‘**NPS-UD**’) by the Housing Supply Amendment Act (2021). The Supplementary Order papers[2] and Environment Committee reports show that various councils had raised issues with the ambiguity of the term ‘adjacent’ in the draft Bill, noting that it doesn’t provide guidance on what ‘adjacent’ means.[3]

The Environment Committee report did not specifically respond to this matter stating that:

> “Officials recommend retaining policy 3(d) as drafted in the Bill with small revisions to address technical errors and the application of the qualifying matters.”

1.2 Case law on ‘adjacent’

The term ‘adjacent’ has been considered in a number of court cases and case summaries of the relevant decisions are included in section 2 of this Appendix. Overall, the case law has consistently considered that the term ‘adjacent’:

- is not confined to places that are adjoining, or land that is adjoining; and
- includes land/places that are near/nearby/close (or close by or in close proximity).

The term adjacent has been interpreted by the Courts as meaning “lying near or close; adjoining; continuous; bordering; not necessarily touching”. It may not be limited to adjoining land and may include nearby properties.[4]

1.3 Interpretation of ‘adjacent’ in Policy 3(d)

The term ‘adjacent’ has a common meaning which is “close to, but not necessarily adjoining another site”.[5] In light of the case law, the definition of ‘adjacent’ in the HGI District Plan (which appears to be consistent with the case law), and the common meaning of the term ‘adjacent’, it is considered that for the purposes of implementing policy 3(d) in the Auckland context land ‘adjacent’ to neighbourhood, local, or town centres will generally consist of:

- Properties/sites that are directly adjoining the centre; and

[1] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/hgi-district-plan/Documents/hauraki-gulf-islands-district-plan-text-part-14.pdf
[2] Including 83—1/Supplementary Order Paper No 106)
[3] https://www.parliament.nz/resource/mi-NZ/53SCEN_ADV_116288_EN9352/94bf0dbf9e2d16f16000308f6e54d250937b7540
[4] *Ports of Auckland Ltd v Auckland City Council* [1999] 1 NZLR 601
[5] https://qualityplanning.org.nz/sites/default/files/2018-11/To%20Notifiy%20or%20Not%202018.pdf

- Properties/sites that are not adjoining the centre, but are ‘close to’ or ‘near’ the centre.

Determining the properties/sites that adjoin the relevant centre is a fairly straight-forward process. However, it is not as clear how you determine the properties/sites that are ‘close to’ or ‘near’ the centre. Therefore, based on the above, a number of different options are outlined
below as to what land could be considered to be ‘close to’ or ‘near’ neighbourhood, local and town centres in Auckland.

1.3.1 Upper limits of ‘close’ or ‘near’

To quantify what ‘close to’ or ‘near’ to the centre means, reference is had to the centres hierarchy in the AUP and the intensification already directed around the larger centres under policy 3(c) of the NPS-UD. The centres hierarchy in the AUP is as follows (largest first):

- City Centre
- Metropolitan Centre
- Town Centre
- Local Centre
- Neighbourhood Centre

As covered in the main s32 report, a walkable catchment around the city centre has been determined to be around a 15 minute walk (approximately 1,200m), while the walkable catchments around the metropolitan centres are around a 10 minute walk (approximately 800m).

The walkable catchment from the edge of the Metropolitan Centre zone’s of around 800m is logically a maximum threshold of what near or close could mean for the three lower order centres specifically mentioned in Policy 3(d). The definition of ‘close’ or ‘near’ must be somewhere below 800m. It would not be a coherent strategy to enable ‘adjacent’ land around the lower order centres to be the same size as the walkable catchment around metropolitan centres.

1.3.2 Should ‘close’ or ‘near’ be based on an actual walking distance?

The purpose behind Policy 3(d) of the NPS-UD seeking greater building heights and densities of urban form around neighbourhood, local and town centres appears to be to create an area immediately surrounding the centres with a high density population. It also seems logical to assume that such a community located adjacent to a centre would be anticipated to walk to that centre for their needs.

Therefore, in determining what ‘close’ or ‘near’ mean in the context of Policy 3(d), it would be sensible to apply a walking distance (rather than a straight measurement). As explained in the main s32 report, using the ‘as the crow flies’ method of estimating how far people can walk is prone to inaccuracies. Measuring a walking distance based on actual walking networks produces more accurate results.

In some cases, even adjoining sites to a centre might not actually be within a set walking distance of the edge of the centre zone when using actual walking networks (not as the crow flies).

While it is important to stress that the 'adjacent' areas to neighbourhood, local and town centres are **not** 'walkable catchments', a similar methodology to that used for Policy 3(c) has been used to assist in determining what areas are 'close' or 'near' to the centres for Policy 3(d).

As explained in section 1.3.1 above, in the context of the NPS-UD 'close' or 'near' must be under 800m from the centres (as this is the distance used for the much larger metropolitan centres and the rapid transit stops). As noted in the literature review on walkable catchments in **Appendix 5** and **Appendix 20**, there is evidence to show that people are prepared to walk further to access frequent and reliable public transport and/or centres with a large variety of activities and services, than they would walk for daily convenience needs (such as those in the lower order centres).

Therefore, using the same methodology as the preferred option in the main body of this report, walking distances (or walkable catchments) can be generated for distances of 600m, 400m, and 200m from the edge of the Neighbourhood, Local and Town Centre zones[6]. An analysis of these distance options is included in the main s32 report.

2 Case law summary on the meaning of 'adjacent'

Ports of Auckland Limited v Auckland City Council [1999] 1 NZLR 60

- The Council granted resource consents to developers to construct residential apartments on Quay Street on a non-notified basis.
- The Port claimed that the applications for consent should have been notified on the basis of concerns relating to reverse sensitivity- the Port was concerned that noise from its operations would adversely affect the amenity values of residents occupying the proposed apartments and that they would have standing to sue in future.
- Issue: whether the Port is an "adjacent owner or occupier of land" for the purposes of s 93
- Held: Adjacent land is not confined to land which is adjoining but includes places which are nearby
- The Court concluded that the Port was in close proximity to the proposed apartments that its operations could have an impact on the amenity value of future residents. On that basis the port should have been notified of the applications for consent as an "adjacent occupier".

Wellington v Lower Hutt [1904] AC 773

- LH constructed a bridge over the Hutt River and gave notice to the Wellington City Council to recover the costs for construction, relying on a provision in the Municipal Corporations Act 1900 which states that where the council of any borough decides to construct a bridge which will be of advantage to the inhabitants of the adjacent borough, it is reasonable for the council of the adjacent borough to contribute to the costs
- Wellington City Council disagreed that Wellington was adjacent to Lower Hutt.

[6] The preferred option under Policy 3(d) uses walking distances of 200m and 400m from the edge of the relevant Local and Town Centre zones. Maps showing the edges (or 'entrance points') of the specific Local Centre and Town Centre zones can be found in **Appendix 15** and **Appendix 16**.

- The Court held that Wellington City is adjacent to Lower Hutt. The word adjacent is not confined to places adjoining and it includes places close to or near.

Murray v Whakatane District Council (1997) 3 ELRNZ 308

- Whakatane District Council granted consents to two developers to complete areas of existing residential development on the Ohope Spit.
- The plaintiffs were owners of land with houses built as a result of the earlier subdivisions. They were not notified of the application because the Council resolved to proceed with the application on a non-notified basis.
- The Plaintiffs argued that they are adjacent owners of land and therefore should have been notified of the application.
- The Court adopted the definition of adjacent as set out in *Wellington v Lower Hutt* – that it is not confined to land which is adjoining. It includes places which are nearby.
- The Court was satisfied that that the plaintiffs, by reason of the proximity of their properties to the subdivisions, were persons affected by the application. Despite suggestions that some of the plaintiff's properties were not immediately adjoining the subdivision sites (particularly in the case of the Waimana development which is separated from the homes of the closest plaintiffs by the width of a nearby reserve), the Court considered that they were sufficiently close that the subdivision will have direct effects on them. The evidence relating to views, privacy and values demonstrated that proximity.

Appendix 11

Determining heights and densities (Policy 3d)

1. Heights and densities commensurate with activities and services

1.1. How ‘adjacent’ land under Policy 3(d) is shown on the planning maps

The adjacent land where Policy 3(d) has been applied is indicated on the planning maps through a brown outline called “Adjacent to Centre – Policy 3(d)”.An example of this is shown in Figure 1 below for the adjacent land to the Milford Town Centre zone.

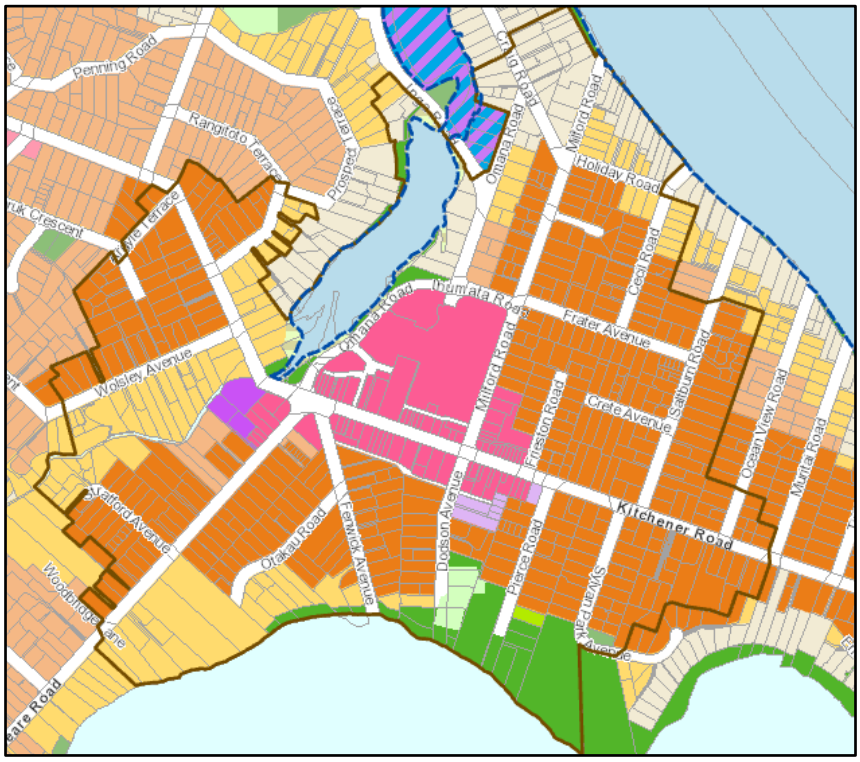

Figure 1: Example of the “Adjacent to Centre – Policy 3(d)” layer on the planning maps identifying the land adjacent to the Milford Town Centre zone

It is important to note that this brown outline denotes the ‘adjacent’ land to the centre and is **not** to be conflated with a ‘walkable catchment’ (which is covered under Policy 3(c)).

1.2. The order of applying Policy 3

Auckland Council has applied Policy 3 in a sequenced manner and the walkable catchments under Policy 3(c) were applied prior to the application of Policy 3(d).

Where a Policy 3(d) area overlaps with a 3(c) walkable catchment, the intensification response for the Policy 3(c) walkable catchment prevails. The ‘Adjacent to centre – Policy 3(d)’ areas are shown in full on the planning maps, even where they may be partially or totally encompassed by a walkable catchment.1 Qualifying Matters apply within 3(d) areas.

[1] This is to show clearly where Qualifying Matters apply. Another reason the full boundaries of Policy 3(d) areas are shown on the planning maps is to be transparent about the NPS-UD Policy 3 intensification directives in the way that they may apply to land. For example, should the walkable catchment area be reduced through the

1.3. How do you measure 'commensurate'?

In applying Policy 3(d) an assessment has first been undertaken to measure the "level of commercial activity and community services" in each centre. This assessment is outlined in the main body of this s32 report and in Appendix 9. The assessment results in 57 of Auckland's town and local centres being classified as having *medium/high* or *high* levels of activities and services.

Policy 3(d) then requires the AUP to enable within and adjacent to these centres, building heights and densities of urban form commensurate with their medium/high or high levels of activities and services.

The ordinary meaning of the word 'commensurate' is "corresponding in size or degree; in proportion".[2] Therefore, these centres with medium/high or high levels of activities and services must enable commensurately *medium/high* or *high* building heights and densities of urban form[3].

There is no objective measure to calculate what the specific commensurate heights and density are for *medium/high* and *high* levels of activities and services. Therefore, it is acknowledged that any method developed will have some level of subjectivity to it. As the MfE guidance[4] was produced prior to the later amendment of Policy 3(d), there is no guidance from MfE on how to reconcile levels of activities and services with building heights and densities of urban form.

1.4. Determining 'commensurate' building heights and densities of urban form on land within centres

1.4.1. What are the building heights and densities of urban form enabled within neighbourhood, local, and town centres?

The currently enabled building heights and density of urban form within the neighbourhood, local and town centres are detailed in the various zone chapters: *H12 – Business Neighbourhood Centre zone*, *H11 – Business Local Centre zone*, and *H10 – Business Town Centre zone.* A summary of the some of the key height and density provisions for each of these centre zones is provided in Figure 2 below.

Height and density controls	Neighbourhood Centre zone	Local Centre zone	Town Centre zone
Maximum total building height	13m (unless a HVC applies)	18m (unless a HVC applies)	Applied in all cases through a Height Variation Control which averages between 19m and 23m (maximum 32.5m, minimum 8.5m)

submissions/hearing process, it is still clear from the maps that for any land no longer covered by a walkable catchment, a Policy 3(d) area may still apply.

[2] Oxford English Dictionary

[3] It is considered that the intention of Policy 3(d) is to require greater heights and densities on adjacent land where the centres have medium/high or high levels of activities and services. It is not considered that the intention of the NPS-UD is to also require the heights and densities on adjacent land to be reduced if the centre itself has low levels of activities and services. In these cases no changes would be made under Policy 3(d).

[4] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment.

Height and density controls	Neighbourhood Centre zone	Local Centre zone	Town Centre zone
Height in relation to boundary	No HIRB applies on internal zone boundaries	No HIRB applies on internal zone boundaries	No HIRB applies on internal zone boundaries
Rear and side yard	3m	3m	3m
Maximum impervious area	No maximum	No maximum	No maximum
Maximum building coverage	No maximum	No maximum	No maximum
Density controls	No controls on density of activities (aside from minimum dwelling size)	No controls on density of activities (aside from minimum dwelling size)	No controls on density of activities (aside from minimum dwelling size)
Building setback at upper floors	N/a	N/a	6m (at 18m height opposite residential and 27m for all other zones)
Maximum tower dimension and tower separation	N/a	N/a	Maximum plan dimension 55m (for that part of building over 34.5m)
Wind	Buildings over 25m must not cause adverse wind effects	Buildings over 25m must not cause adverse wind effects	Buildings over 25m must not cause adverse wind effects
Outlook space for habitable rooms	3m x 3m (or 6m x 4m for principal living room)	3m x 3m (or 6m x 4m for principal living room)	3m x 3m (or 6m x 4m for principal living room)
Minimum dwelling size	45m^2 or 30m^2 for studio dwellings	45m^2 or 30m^2 for studio dwellings	45m^2 or 30m^2 for studio dwellings
GFA threshold[5] on Offices	500m^2	500m^2	No thresholds
GFA threshold on Retail	450m^2	450m^2	No thresholds
GFA threshold on Supermarkets	450m^2	2,000m^2	No thresholds
Summary of heights and densities	***Medium***	***Medium/High***	***High***

Figure 2: AUP provisions controlling heights and density of urban from in Neighbourhood, Local, and Town Centre zones.

1.4.1.1. Neighbourhood Centre zones

Neighbourhood centres are typically very small sets of shops or can even be standalone dairies or service stations. All neighbourhood centres are deemed to have *low* levels of commercial activities and community services.[6] In the context of Policy 3(d), the medium building heights and densities of urban form enabled on land within neighbourhood centres

[5] Threshold for when the activity shifts in activity status (e.g. from permitted to restricted discretionary).
[6] Refer to the main body of this s32 report and Appendix 9.

(e.g. three storeys height and no building coverage) is already more than commensurate with the low level of activities and services in Auckland's neighbourhood centres.

1.4.1.2. Local Centre zones

The Local Centre zone applies to 75 small centres throughout Auckland. The zone primarily provides for the local convenience needs of surrounding residential areas.[7] However, there is a wide range of local centre sizes – from 0.25ha to 18ha. The local centres (irrespective of size) with lower access are considered to have relatively *low* levels of commercial activities and community services. The large local centres that also have high access are considered to have *medium/high* levels of commercial activities and community services.[8]

In the context of Policy 3(d), the *medium* building heights and densities of urban form enabled on land within local centres (e.g. four storeys and no building coverage) is already commensurate (or more than commensurate) with both the relatively *low* level of activities and services in the smaller local centres and the *medium/high* levels in the larger local centres.

1.4.1.3. Town Centre zones

The Town Centre zone applies to 45 centres throughout Auckland. The zone services a wider area than local centres and provides for a large range of activities including commercial, leisure, residential, tourism, cultural, community and civic services.[9]

However, there is a significant range of town centre sizes – from 2.1ha to 25ha. The town centres (irrespective of size) with lower access are considered to have relatively *low* levels of commercial activities and community services. Both the small and large town centres that have high access are considered to have *high* levels of commercial activities and community services.[10]

In the context of Policy 3(d), the relatively *high* building heights (e.g. up to nine storeys) and densities of urban form (e.g. no building coverage, no GFA limits) enabled on land within town centres is already commensurate (or more than commensurate) with all categories of town centre.

1.4.1.4. Summary

Figure below broadly summarises the levels of activities and services in neighbourhood, local and town centres and the enabled heights and densities of urban form within each centre. The final column then compares the two results and whether the enabled heights and densities are at least commensurate with the levels of services and activities.

It concludes that the enabled heights and densities within all neighbourhood, local, and town centres (of any size or catchment) are commensurate with the levels of activities and services in those centres. Therefore, no specific amendments to the AUP provisions are

[7] H11.1 of the AUP.
[8] Refer to the main body of this s32 report and Appendix 9.
[9] AUP H10.1
[10] Refer to the main body of this s32 report and Appendix 9.

recommended to implement the part of Policy 3(d) relating to heights and densities of urban form within neighbourhood, local and town centres.[11]

Centre type	Centre size	Centre access	Level of activities and services	Enabled heights and density within centre	Are heights and densities at least commensurate with levels of activities and services?
Neighbourhood Centre	All	All	*Low*	*Medium*	Yes
Local Centres	All	Low	*Medium*	*Medium/High*	Yes
Local Centres	Large	High	*High*	*Medium/High*	Yes
Town Centres	All	Low	*Medium*	*High*	Yes
Town Centres	All	High	*High*	*High*	Yes

Figure 3: Measuring whether heights and densities within centres are commensurate with level of activities and services

1.5. Determining 'commensurate' building heights and densities of urban form on land adjacent to centres

1.5.1. What are the building heights and densities of urban form enabled on land adjacent to neighbourhood, local, and town centres?

1.5.1.1. Neighbourhood centres

The enabled building heights and densities of urban form on residential land adjacent to neighbourhood centres are considered to be *medium* as they generally will be Mixed Housing Suburban and Mixed Housing Urban. In the context of Policy 3(d), the *medium* building heights and densities of urban form enabled on land adjacent to neighbourhood centres is already commensurate with the *low* level of activities and services in Auckland's neighbourhood centres.

Therefore, no changes to the AUP are proposed under Policy 3(d) in relation to land adjacent to neighbourhood centres.

[11] Note that as a consequential change from the proposed THAB adjacent to some centre zones, a Height Variation Control is proposed to increase the heights in these centre zones to 22m (where they are currently under 22m).

1.5.1.2. Local and town centres

The land adjacent to the local and town centres that have *medium/high* or *high* levels of activities and services[12] is covered by a variety of zones (as proposed by PC120). The main zones adjacent to these centres are:

- Large Lot zone
- Single House
- Mixed Housing Urban
- Terrace Housing and Apartment Buildings ('**THAB**')
- Mixed Use
- General Business
- Light Industry
- Heavy Industry
- Special Purpose - School
- Special Purpose - Tertiary
- Neighbourhood Centre
- Open Space

The PC120 enables building heights and density of urban form in the zones adjacent to these local and town centres that have *medium/high* or *high* levels of activities and services are outlined in the s32 Evaluation Report on Chapter H Residential and Business Zones . Based on the above, Figure 4 shows the zones[13] with enabled heights and densities that are commensurate with the *medium/high* and *high* levels of activities and services in the various local and town centres.

Adjacent zone	Enabled heights and density	Is it (at least) commensurate with the level of activities and services[14]
Large Lot zone	*Low*	N/a*
Single House zone	*Low*	No
Mixed Housing Suburban zone	*Low/Medium*	No
Mixed Housing Urban zone	*Medium*	No
Terrace Housing and Apartment Buildings zone	*High*	Yes
Mixed Use zone	*High*	Yes
General Business zone	*High*	N/a**

[12] Refer to the main body of this s32 report and Appendix 9.
[13] Adjacent to the specific local and town centres that have *medium/high* or *high* levels of activities and services.
[14] In those 57 local and town centres that have *medium/high* or *high* levels of activities and services.

Adjacent zone	Enabled heights and density	Is it (at least) commensurate with the level of activities and services[14]
Light Industry zone	*High*	N/a**
Heavy Industry zone	*High*	N/a**
Open Space zones	*Low*	N/a**
Special Purpose zones	*Medium*	N/a**
Neighbourhood Centre zone	*Medium*	No***

Figure 4: Are the heights and densities enabled in adjacent zones commensurate with medium/high and high levels of services and activities

*Where the Large Lot zone is used on land adjacent to local and town centres it is because a planning constraint is present (a qualifying matter within Policy 3(c) or 3(d) areas). Therefore, no change to the heights or densities of these zones is required as Policy 4 of the NPS-UD allows qualifying matters to modify the heights or densities otherwise directed.

**These zones are considered commensurate as the heights and density in these zones have a negligeable relationship to the activities and services in an adjacent centre. *Medium/high* and *high* levels of activities and services in a centre should have a commensurate response on adjacent residentially zoned land (as the more people living nearby could use the centre) and land zoned for commercial activities (as these can complement the activities of the centre). However, there is not a clear linkage between the heights and density of (for example) a manufacturing factory/park playground/private school and the activities and services of the centre.

***The Neighbourhood Centre zone has a maximum height of 13m. This is lower than the height enabled in the THAB zone (22m) which (as outlined later) is the preferred option for enabling commensurate heights and densities on land adjacent to specific local and town centres. In some cases a Neighbourhood Centre zone can be located on land adjacent to a town or local centre. In these cases, a Height Variation Control is proposed to increase the height limit in that Neighbourhood Centre zone from 13m to 22m.

1.5.1.3. Summary

Figure below broadly summarises densities of urban form adjacent to the various centre categories[15] (based on their levels of activities and services). The final column then compares the enabled heights and densities with the levels of services and activities to determine if they are (at least) commensurate.

[15] Categories based on the levels of activities and services in each centre.

Centre type	Centre size	Centre access	Level of activities and services	Enabled heights and density adjacent to centre[16]	Are heights and densities (at least) commensurate with levels of activities and services?
Neighbourhood Centres	All	All	*Low*	*Medium*	Yes
Local Centres	Small	All	*Low*	*Medium*	Yes
Local Centres	Large	Low	*Low*	*Medium*	Yes
Local Centres	Large	High	*Medium/High*	*Medium*	No
Town Centres	All	Low	*Medium*	*Medium*	Yes
Town Centres	All	High	*Medium/High*	*Medium*	No

Figure 5: Measuring whether heights and densities adjacent to centres are commensurate with level of activities and services in these centres

The above table concludes that the enabled heights and densities in the adjacent zones are commensurate with the levels of activities and services in most centre categories. However, the heights and densities in the zones adjacent to the following centre types are not commensurate with the levels of activities and services in those centres:

- Local Centres ('Large' in size with 'High' access)
- Town Centres ('Small' or 'Large' in size with 'High' access)

The list of the 57 centres meeting the above description is below.

Large local centres with a high access (23):

- Albany Village
- Balmoral
- Blockhouse Bay
- Botany Junction
- Chatswood
- Clendon
- Dawsons Road
- Eden Valley
- Greenlane West
- Grey Lynn
- Hobsonville
- Jervois Road
- Kelston
- Kepa Road/ Eastridge
- Lynfield
- Mairangi Bay
- Mangere East
- Meadowbank
- Meadowlands
- Mt Roskill
- Mt Wellington
- Te Atatū South
- Drury

[16] Determined from the mix of adjacent zones.

Small or large Town Centres with high access (34):

- Avondale
- Birkenhead
- Browns Bay
- Devonport
- Ellerslie
- Glen Eden
- Glen Innes
- Glenfield
- Green Lane
- Highland Park
- Howick
- Hunters Corner
- Mangere
- Manurewa
- Milford
- Mt Albert
- Newton - Upper Symonds St
- Northcote
- Onehunga
- Ōtāhuhu
- Ōtara
- Pakuranga
- Panmure
- Papatoetoe
- Parnell
- Ponsonby
- Pt Chevalier
- Remuera
- Royal Oak
- St Lukes
- Stoddard Rd
- Sunnynook
- Te Atatū North
- Three Kings

Tables classifying all the local and town centres by size and accessibility are included in **Appendix 9.**

As outlined earlier in Figure , the adjacent residential zones that have heights and densities of urban form that are not commensurate with the *medium/high* or *high* level of activities and services in the specific local and town centres are:

- Single House zone
- Mixed Housing Suburban zone
- Mixed Housing Urban zone

Therefore, to implement this part of Policy 3(d) amendments to the AUP zoning and/or provisions are required. A full options analysis is included in the main body of this s32 report, but in summary the recommended option is (for land adjacent to the 57 centres listed above) to:

- Rezone adjacent land currently zoned Mixed Housing Suburban or Mixed Housing Urban to THAB; and

In addition, a Height Variation Control is proposed to be added to land zoned Neighbourhood Centre that is within the land adjacent to the 57 town and local centres. This will increase the enabled height to 22m (to match the new THAB in this area). Furthermore, any Local or Town Centre zone with an existing height limit below 22m has this increased to 22m via a Height Variation Control. Refer to the main s32 report for more details on this.

Appendix 12

Rapid transit stops- Station entrance maps

N
Rampart Street
College Road
Northern Busway
Esmonde Road On Ramp
Takapuna Landing
Fred Thomas Drive
Akoranga Drive
Boundary Drive
Esmonde Road
The Warehouse Way
0 30 60 120 Meters
public

N
Pemhill Way
Allegro Way
Lagoonda Rise
Medallion Drive
Lismore Way
Mason Road
Oteha Valley Road Off Ramp
Oteha Valley Road
Corinthian Drive
Kaipiho Lane
Cornerstone Place
Elliot Rose Avenue
Ray Street
Wuritoe Lane
Spray Rise
Corban Avenue
Don Mckinnon Drive
Meadowmont Road
Kerekin Drive
Spencer Road
0 30 60 120 Meters
public

public

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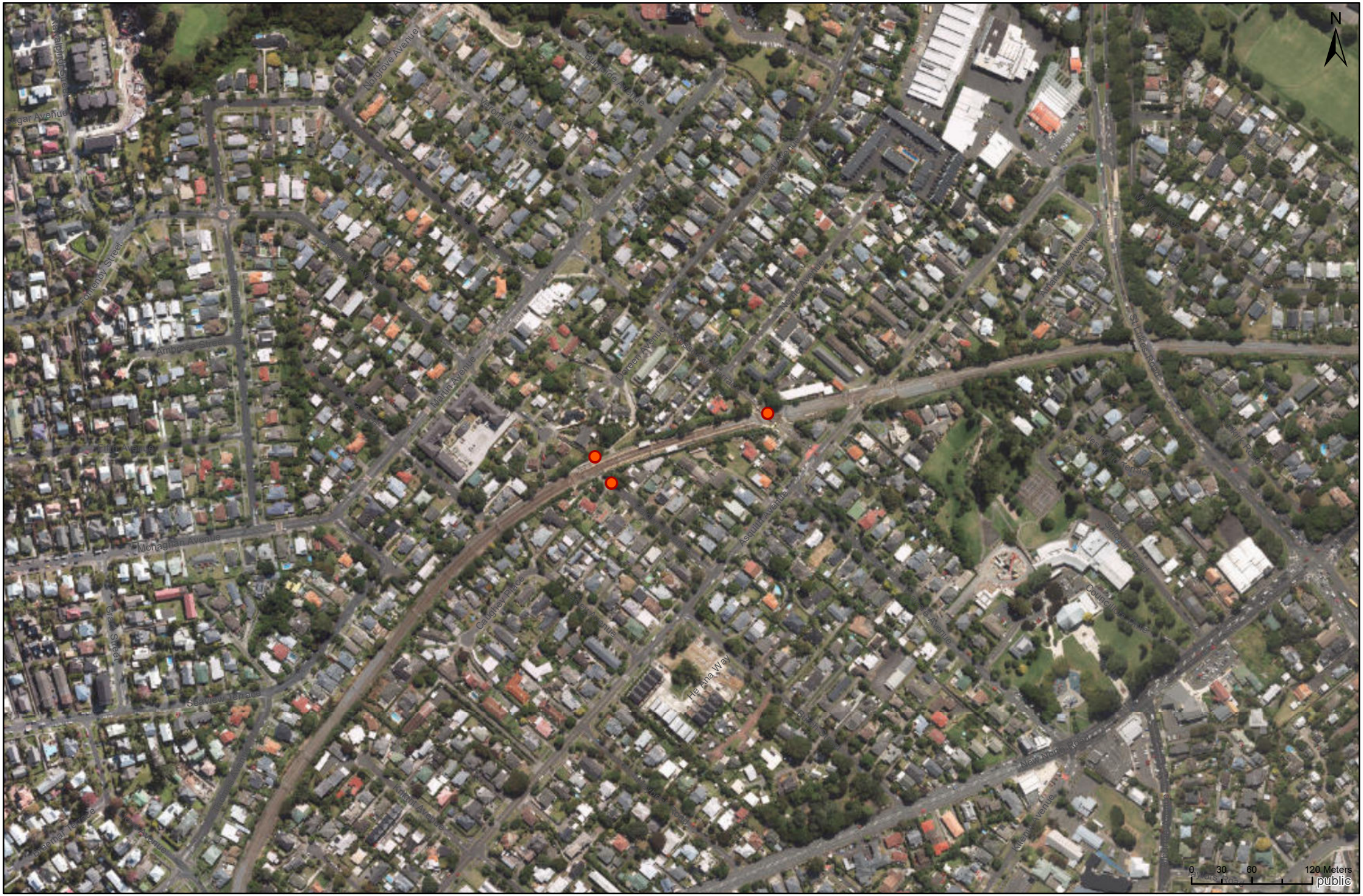
Aotea Train Station

N
Ash Street
Elm Street
Rosebank Road
Tait Street
Tiverton Road
Clayton Street West
Clayton Street
Blockhouse Bay Road
Wallace Place
Methuen Road
New Windsor Road
St Georges Road
Chalmers Street
Animia Avenue
0 30 60 120 Meters
public



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Baldwin Ave Train Station

Planning and Resource Consents

public

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public

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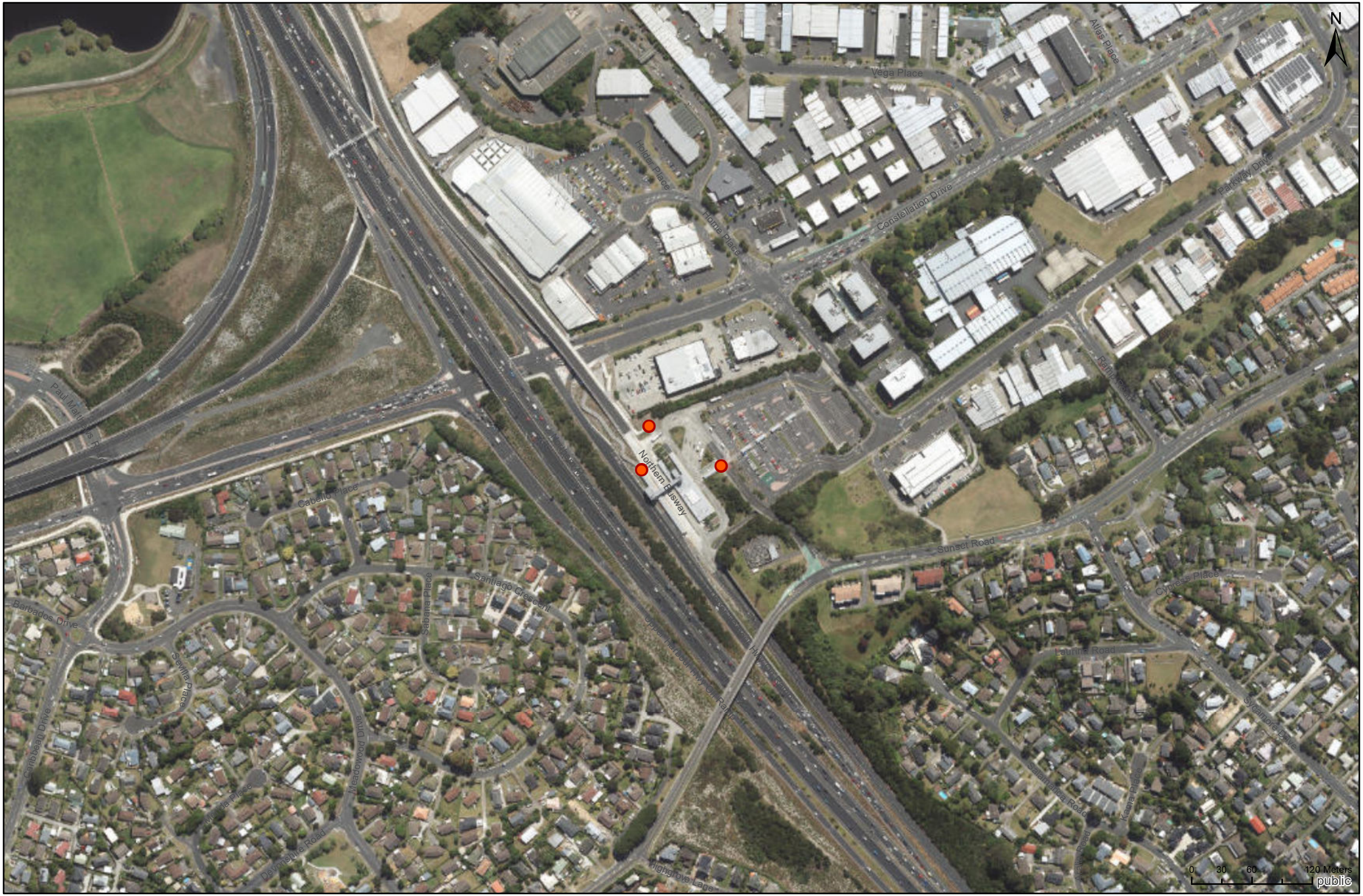
Burswood Station


N
Vega Place
Altas Place
Holder Place
Holme Place
Constellation Drive
Parkway Drive
Paul Matthews Rd
Cabello Place
Northern Busway
Sunset Road
Barbados Drive
Sabana Place
Santiago Crescent
Sevilla Place
Caribbean Drive
Meadowood Drive
Laurina Road
Cypress Place
Sycamore Drive
Kapana Place
Stanfield Road
Dalmeglia Road
Highgrove Lane
0 30 60 120 Meters
public

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public

Drury Train Station

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Ellerslie Train Station

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Fruitvale Rd Train Station

Auckland Council
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public

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Grafton Train Station

public

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Greenlane Train Station

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Grossamer Drive Bus Station

N
Alderman Drive
Ratapiu Street
Trading Place
Edgington Road
Stevies Lane
Great North Road
Wilsher Crescent
Sergeant Street
Albert Taylor Avenue
Henderson Valley Road
Railside Avenue
Edsel Street
Catherine Street
Pioneer Street
Dora Street
Victoria Avenue
Newington Road
Southgate Place
0 30 60 120 Meters
public

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Homai Train Station

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Auckland Council
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Manukau Train Station

N
Northcrest Way
Hill Road
Claude Road
Frances Street
Match Road
Station Road
Great South Road
Newbrook Lane
Halver Road
James Road
Rosemary Lane
Selwyn Road
Alfriston Road
Russell Road
Kay Road
Dreadon Road
Weymouth Road
Neare Lane
Churchill Avenue
Rogers Road
Beaumonts Way
Woodside Road
McAnnalley Street
Camberley Court
Lincoln Road
Blossom Lane
Percival Street
Bowlaer Place
Saints Court
Cosstead Road
Rondolay Place
0 30 60 120 Meters
public

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Massey Road
Miami Street
Thompson Street
Te Arolia Street
Ahuriri Road
Rosella Road
Gray Avenue
Oakland Road
Poplar Road
Louis Lane
Farlsworth Road
Te Ara Wai
Middlemore Crescent
N
0 30 60 120 Meters

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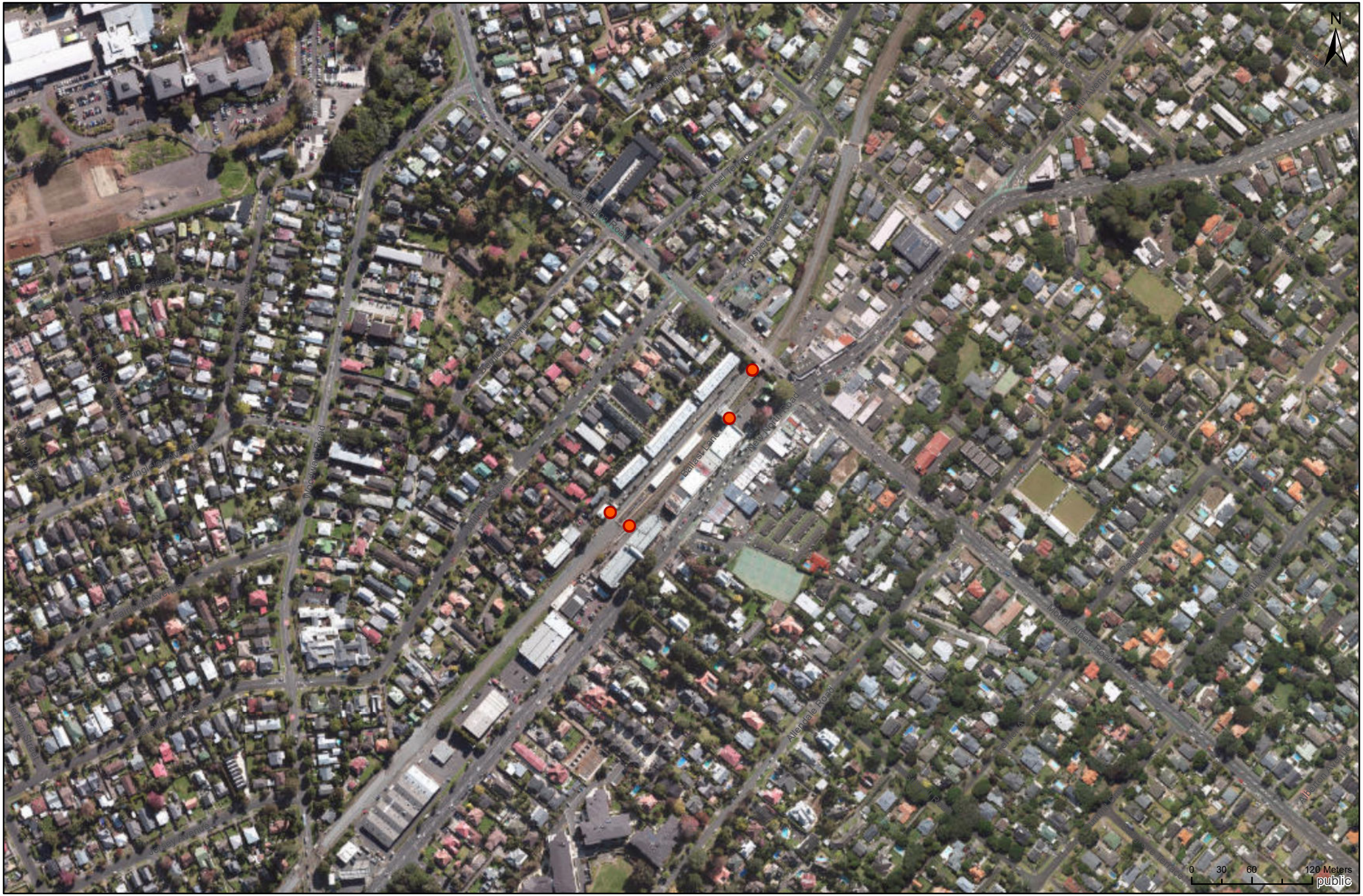
Morningside Train Station



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New Lynn Train Station

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Newmarket Train Station

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public

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Otahuhu Train Station

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Pakuranga Station

N
Te Horeta Road
Jellicoe Road
Quin Street
Dunlop Lane
Mountain Road
William Harvey Place
0 30 60 120 Meters
public

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Papakura Train Station

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Papatoetoe Train Station

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N
Cain Road
Neale Street
Gavin Street
Bassett Avenue
Walls Road
Great South Road
Pleasant Street
Penrose Road
Bowe Road
Station Road
Holloway Place
Orpwood Road
Maurice Road
0
30
60
120 Meters

Auckland Council
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N
Lodge Street
Hall Street
King Street
Devon Lane
Roulston Lane
Wesley Street
Edinburgh Street
Massey Avenue
Roulston Street
Graham Street
Harris Street
Stadium Drive
East Street
Matatea Avenue
Totara Avenue
Totara Place
Roose Avenue
Carlton Heights
Carlton Road
Ngahere Road
Elsie Lane
Custom Street
Station Road
Manuel Way
Birch Road
Tuhikaramea Road
Subway Road
0 30 60 120 Meters
public

Swanson Road
Robertson Road
Ranui Station Road
Carlas Way
Pooks Road
Kaikatea Place
Macrocarpa Place
Cirrus Way
Cumulus Way
Kora Avenue
Millcroft Drive
Millcroft Place
Millcroft Rise
Millcroft Lane
Suva Lane
Bal Lane
Charlenne Close
Lochinvar Place
Milltrose Road
Ireland Place
Calmont Place
Hillview Rise
0 30 60 120 Meters
public

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N
Bushlands Park Drive
Tawa Drive
Miro Place
Titoki Place
Henry Rose Place
Kristin Lane
Tait Place
Cowley Place
Northern Busway
Rosedale Road
Dallen Place
Civil Place
Arrenway Drive
Triton Drive
Canaveral Drive
Apollo Drive
Orbit Drive
0 30 60 120 Meters

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N
Corunna Avenue
Millbrook Road
Awaroa Road
Wattle Road
Silverton Road
Hindmarsh Street
Aetna Place
Kaha Lane
Selwyne Place
Manuka Place
Seymour Road
Rosedrich Drive
Stella Rise
Nirmal Place
Chesterton Street
Brooklyn Circle
Mckinlay Road
0 30 60 120 Meters
public

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Swanson Train Station

Planning and Resource Consents

N
Lynton Road
The Oasis
Mahora Way
Metapo Road
Te Kehu Way
Caroline Road
Arahui Road
Mount Wellington Highway
Southern Motorway
Mount Wellington Hwy Off Ramp
Mount Wellington Hwy On Ramp
Arthur Brown Place
Bowden Road
0 30 60 120 Meters

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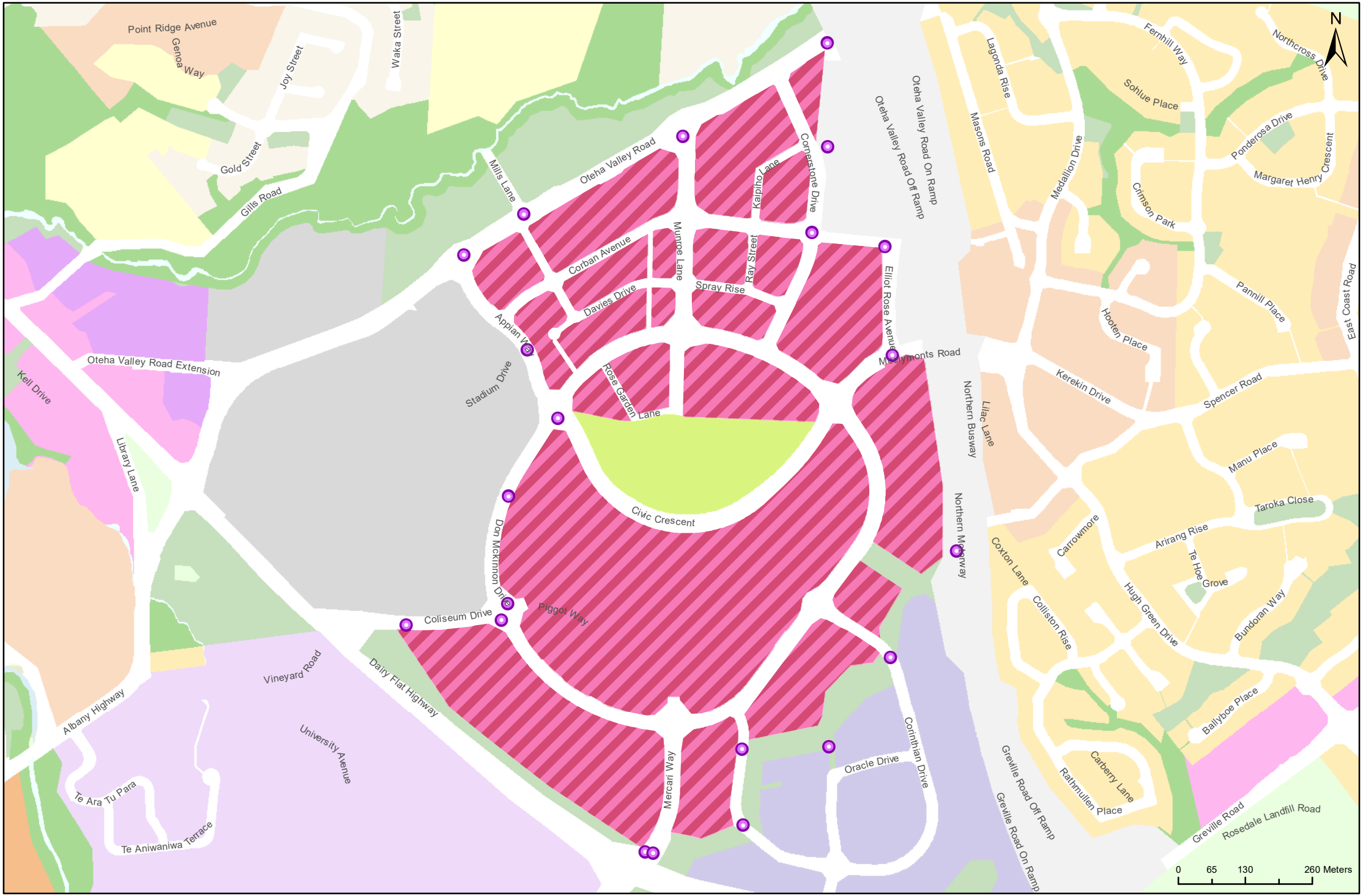
Takaanini Train Station

N
Lincoln Road
Myers Road
Jenkins Place
Hollinbrigg Place
Beaumonts Way
Rogers Road
Sterling Avenue
Shifnal Drive
Puriri Road
Leyland Place
Ferguson Street
Olive Street
Barnard Place
Great South Road
Beaumonts Way Extension
Christmas Road
Rimu Road
Totara Road
Nield Road
Mahia Road
Holmes Road
Tawa Crescent
Manurewa-Takanini On Ramp
Southern Motorway
Takanini Off Ramp
Solveig Place
Trimdon Street
Rangi Road
0 30 60 120 Meters
public

Appendix 13

Metropolitan Centre zone edge-Zone ‘entrance points’ maps



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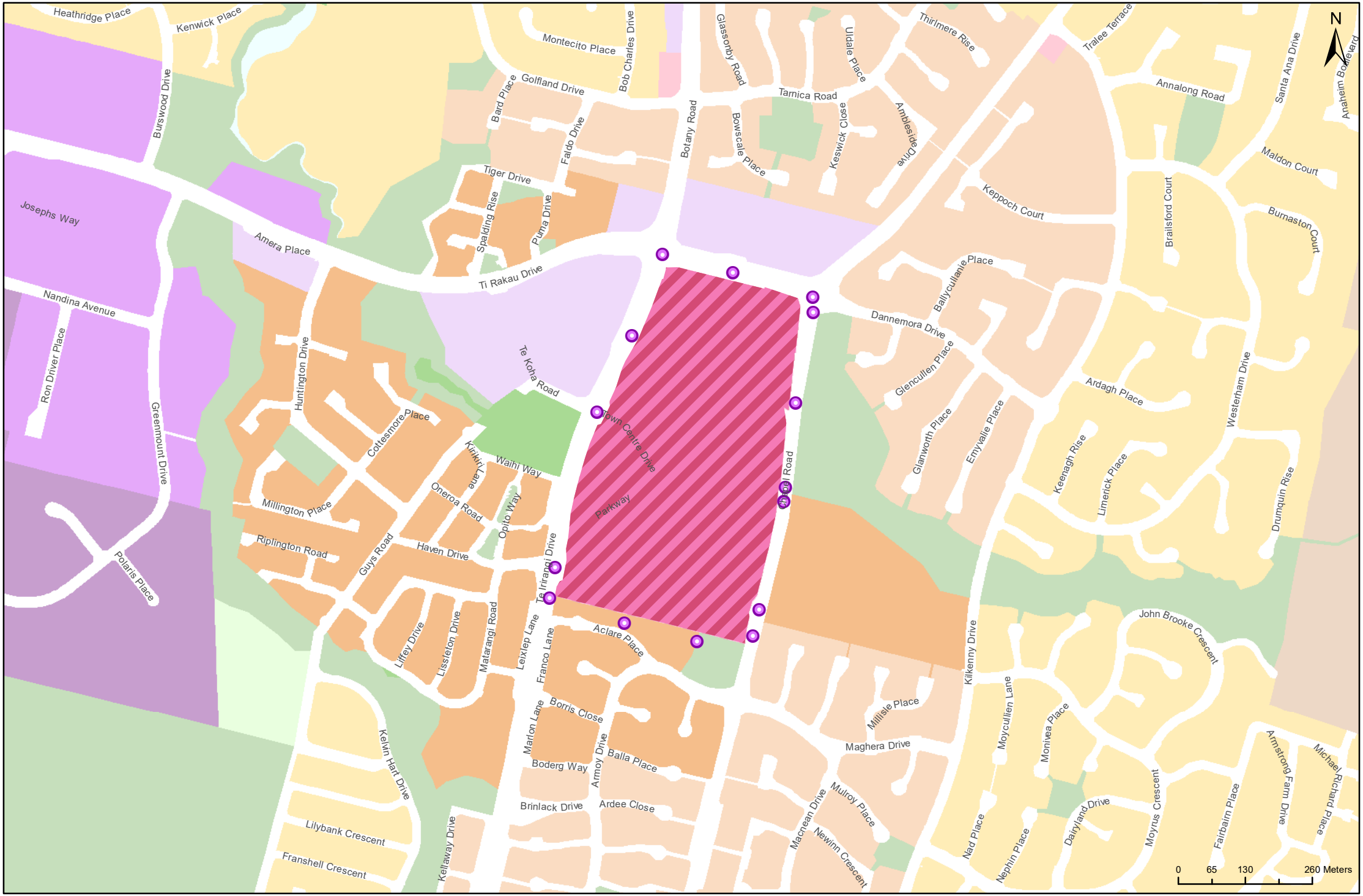

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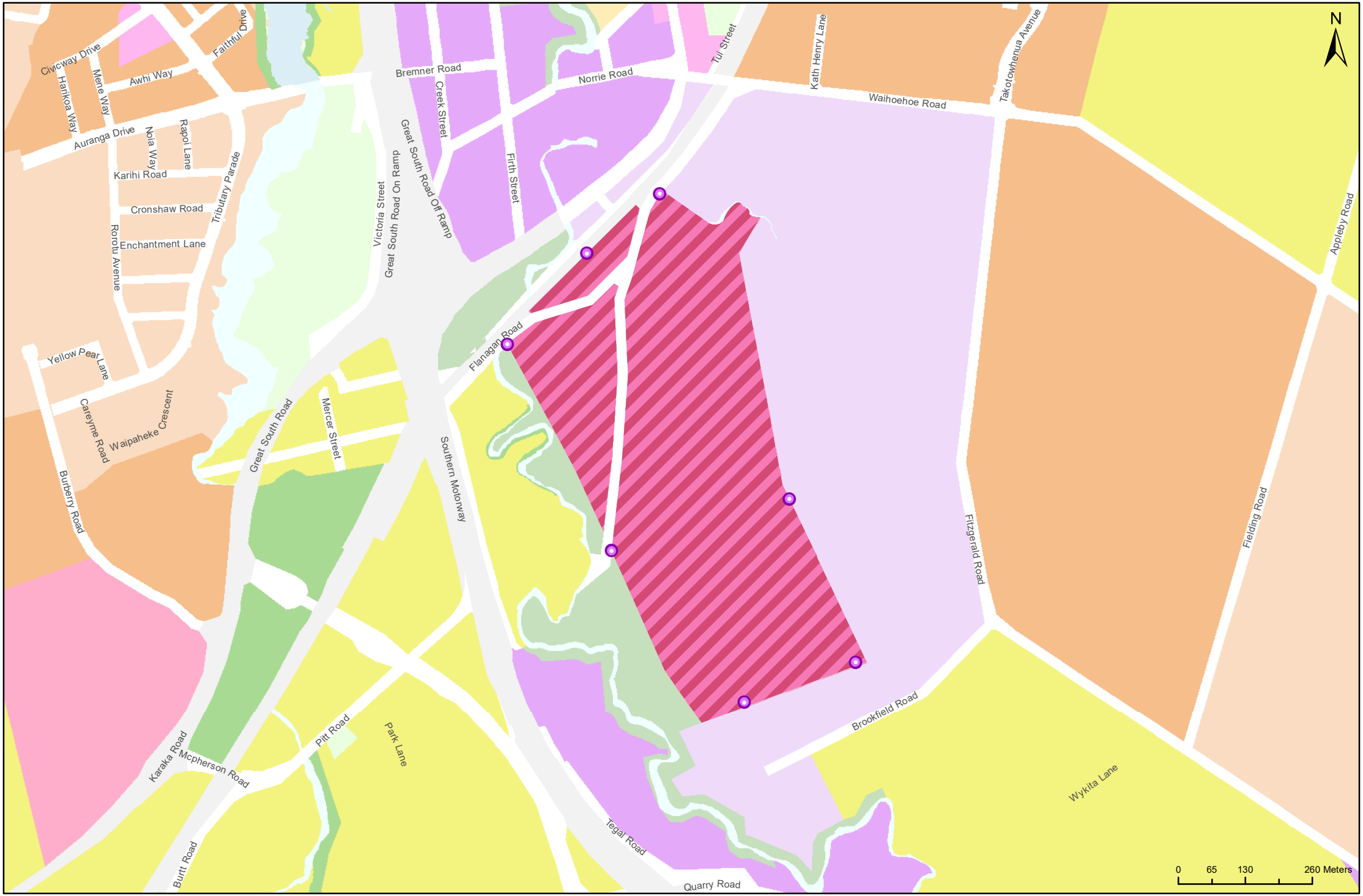

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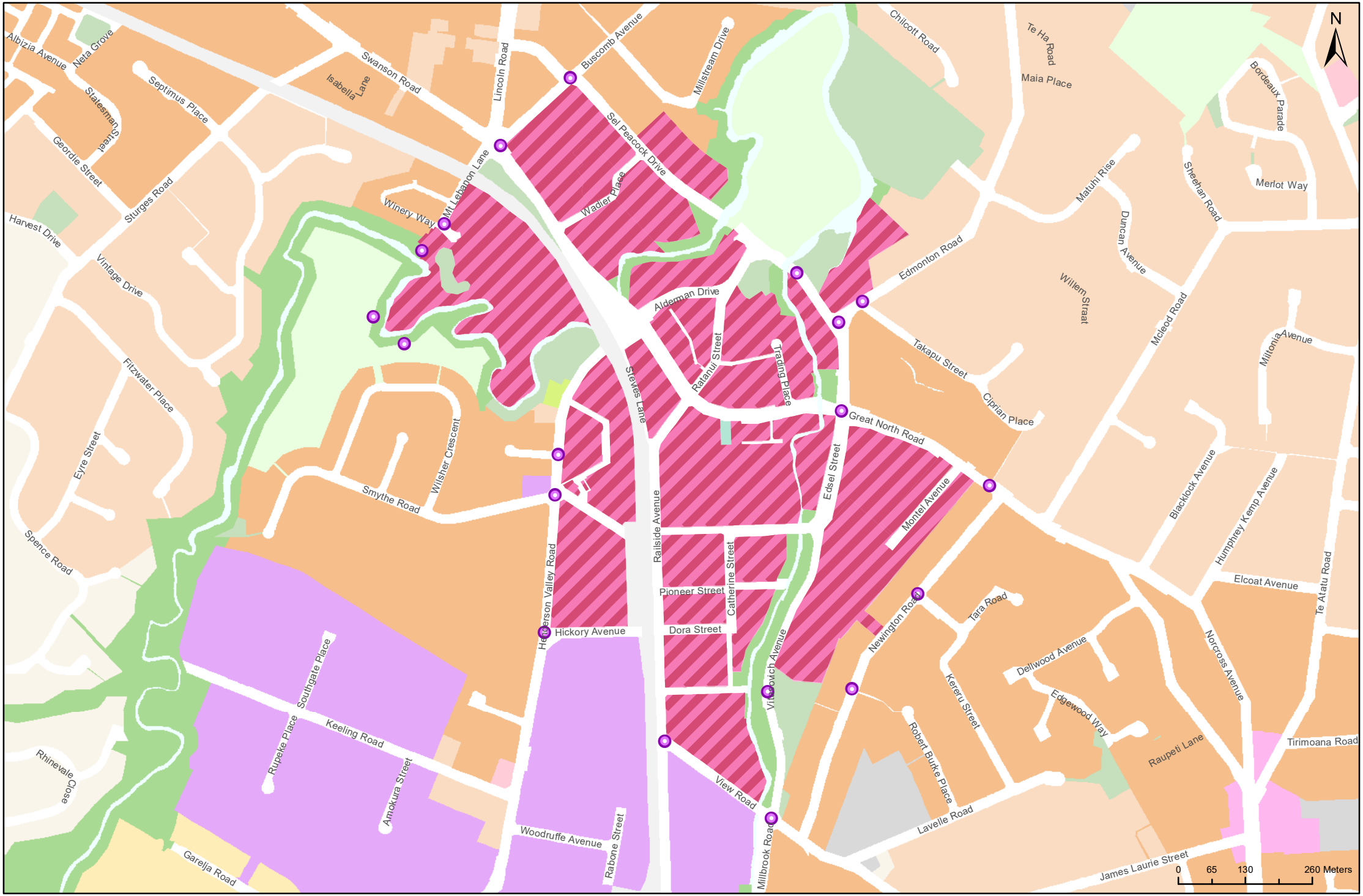

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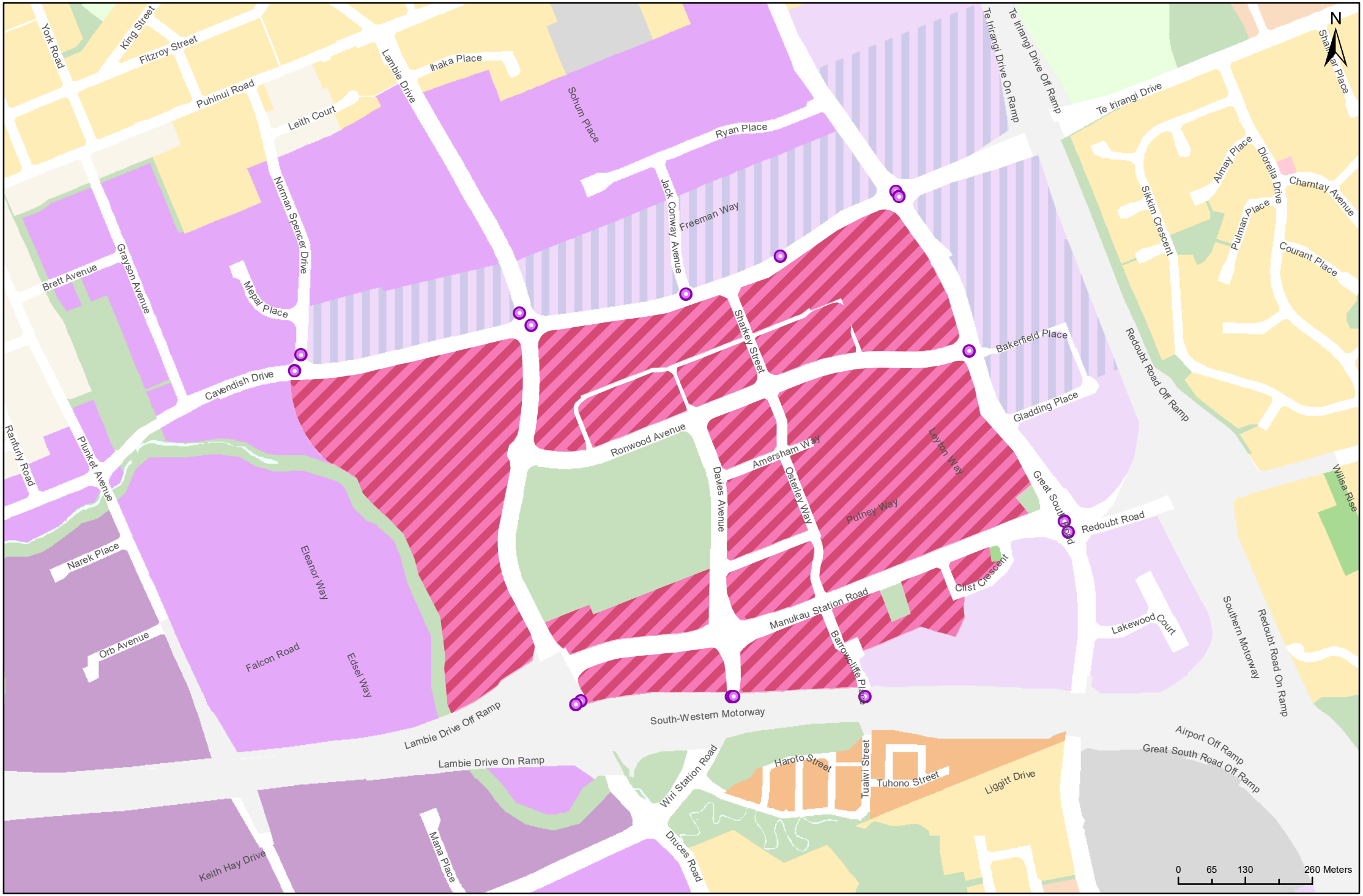

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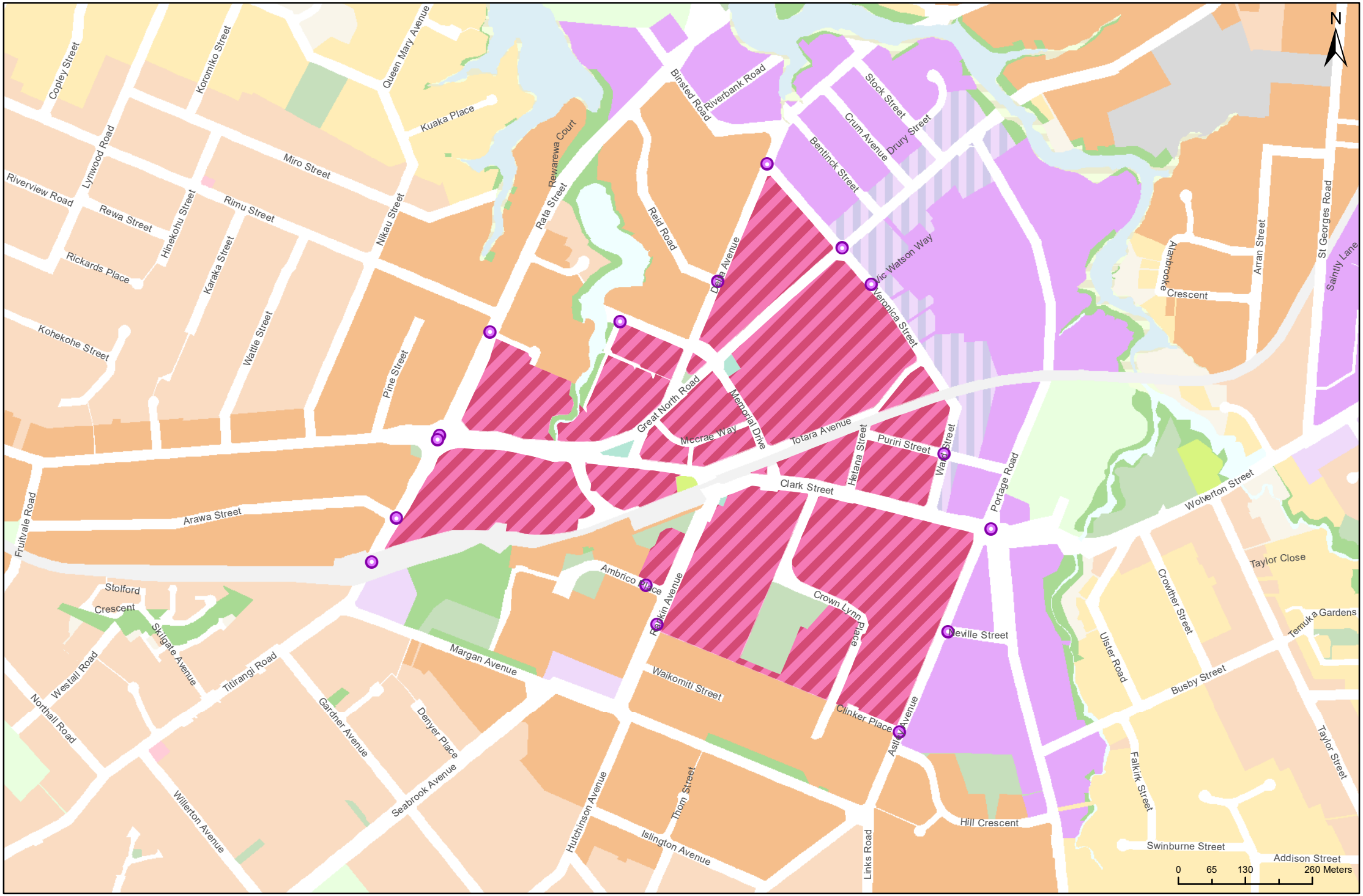

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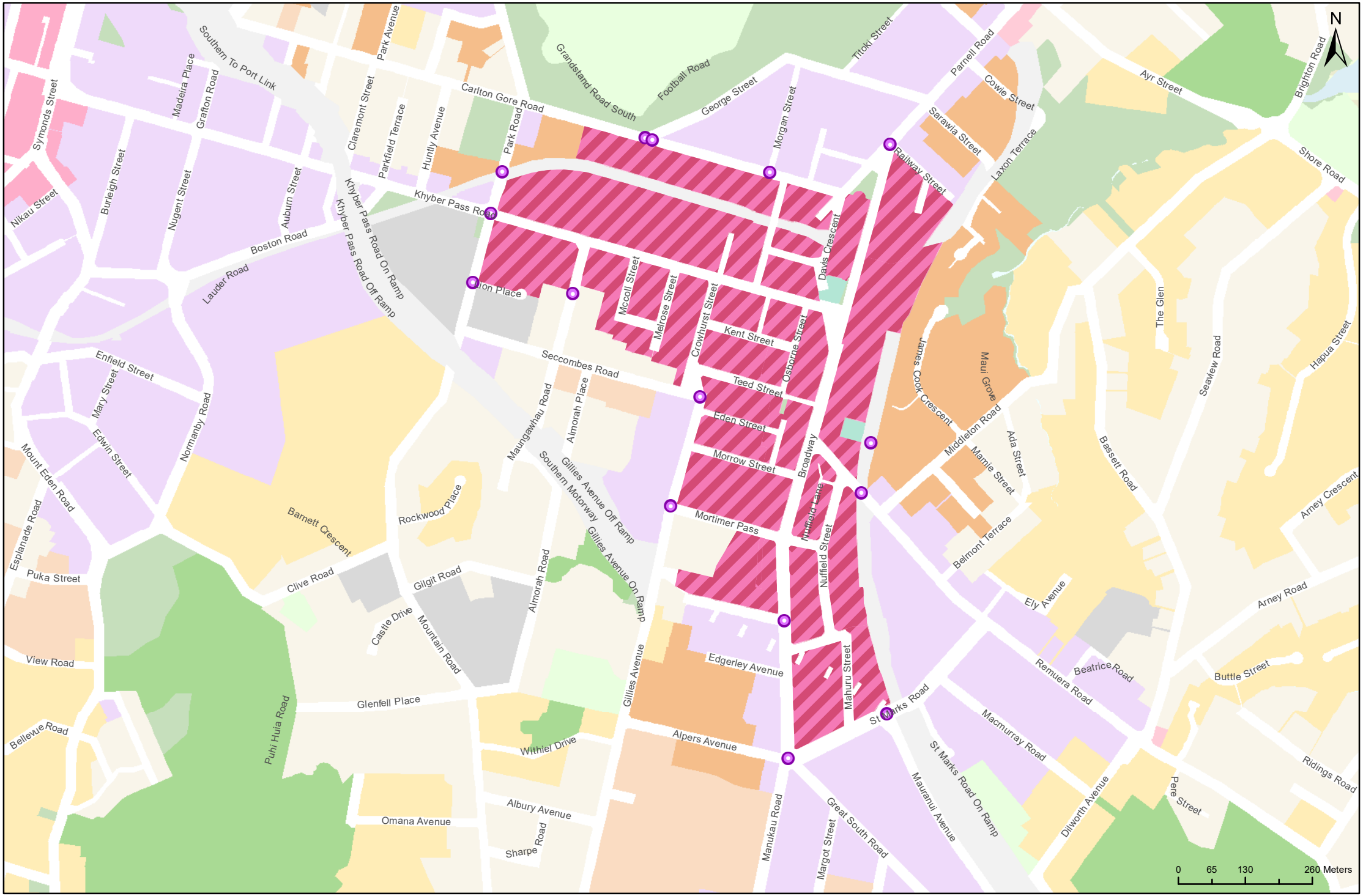

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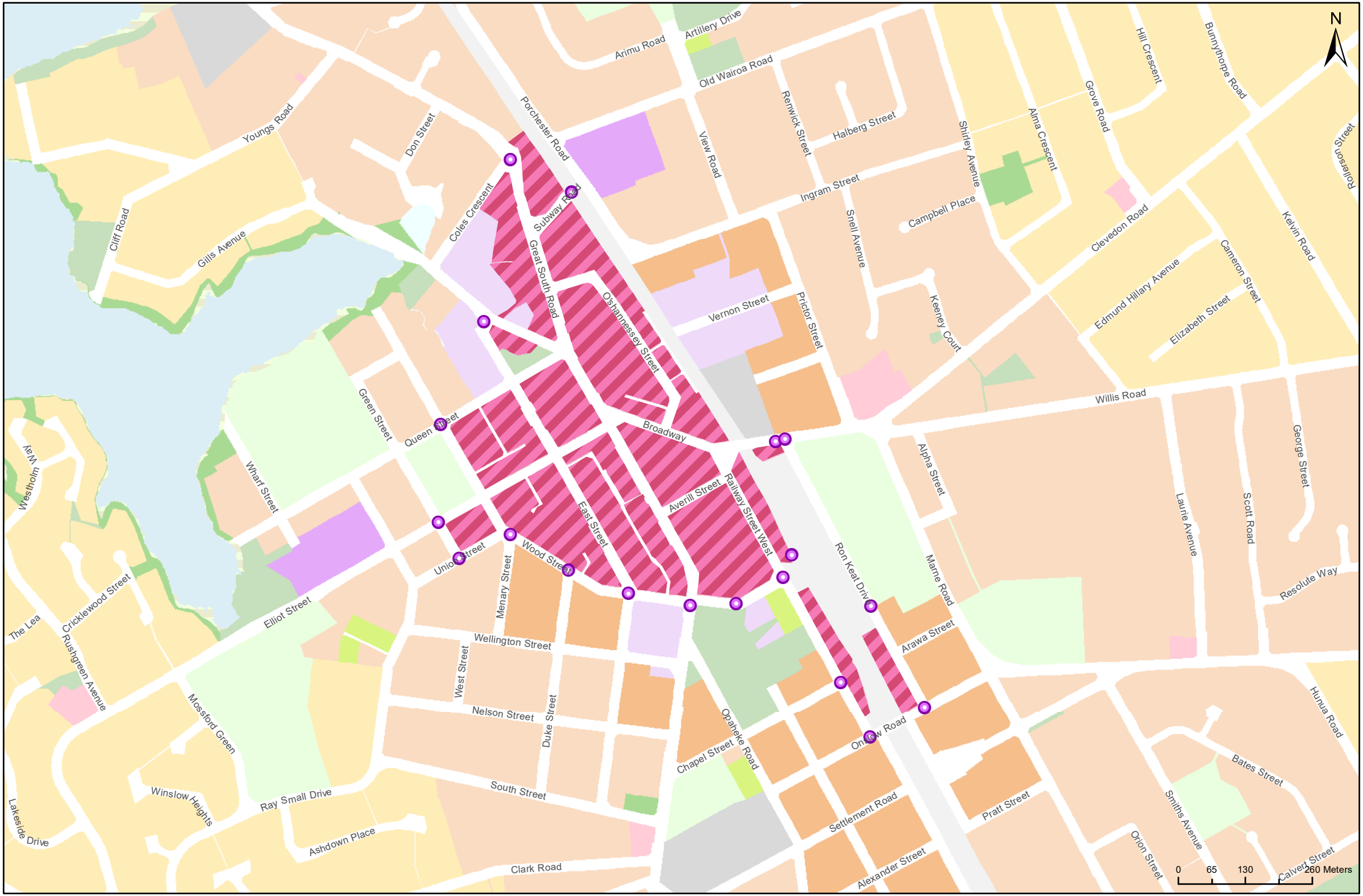
Metro Centre - Newmarket



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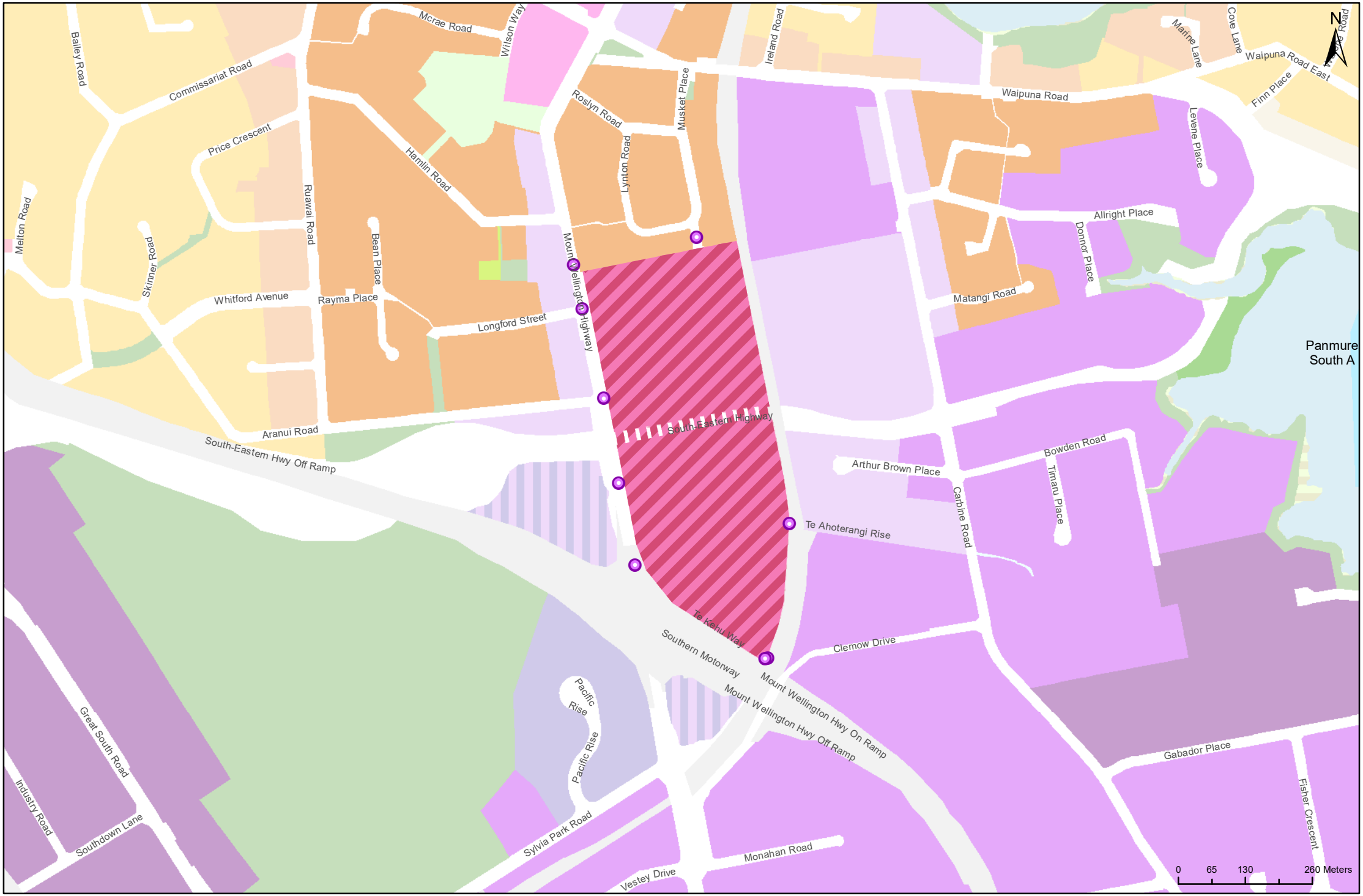

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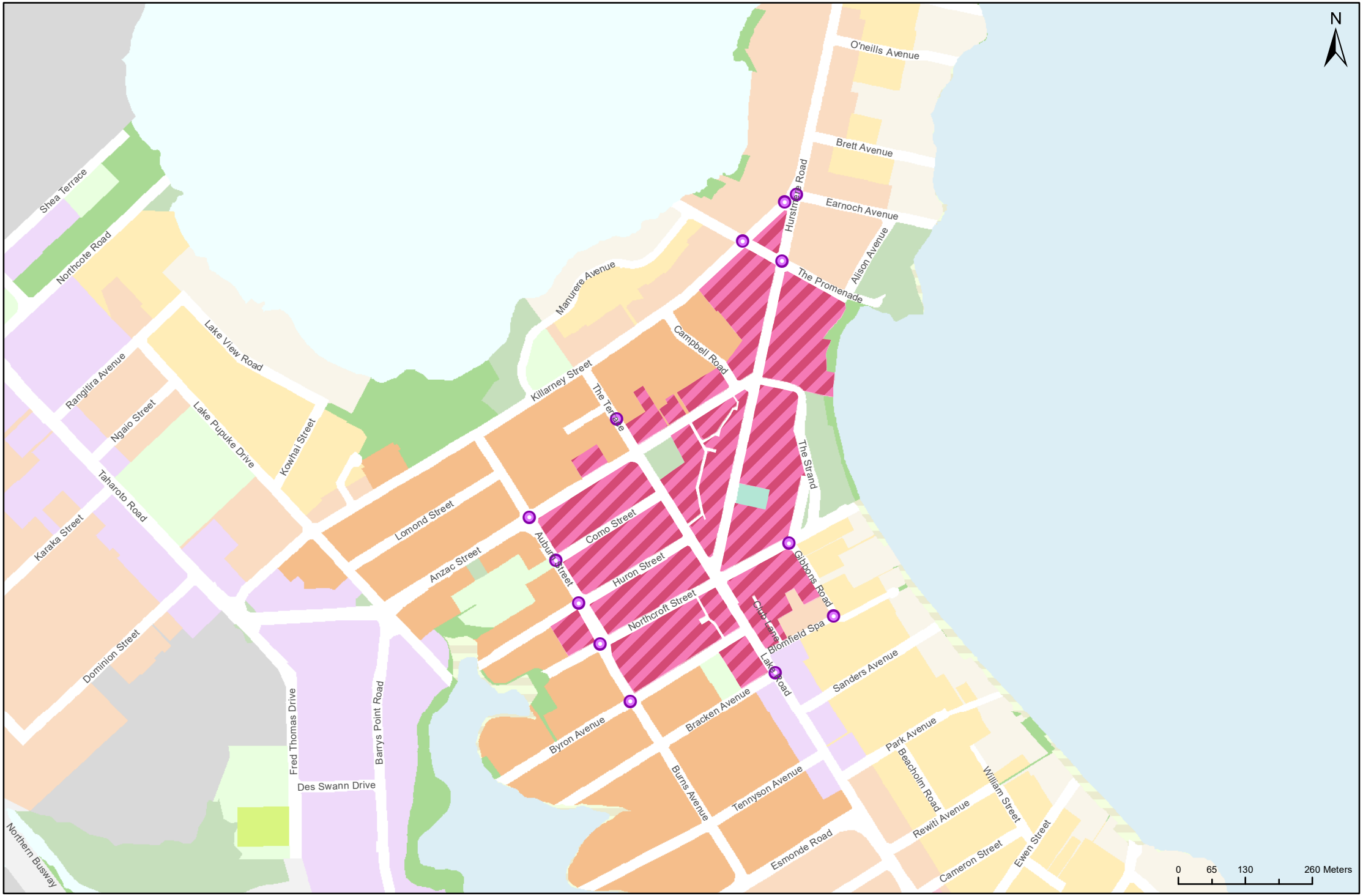

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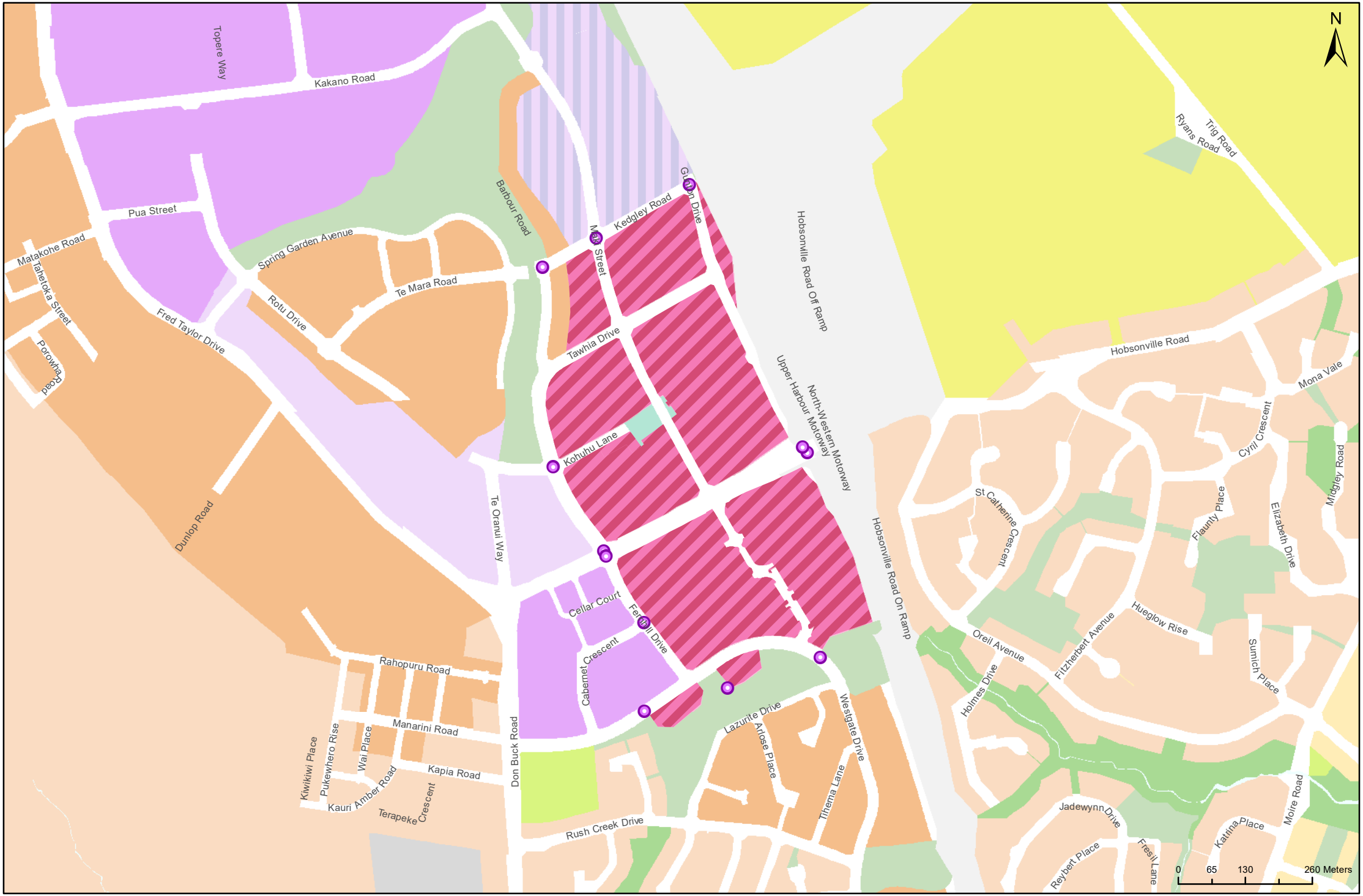

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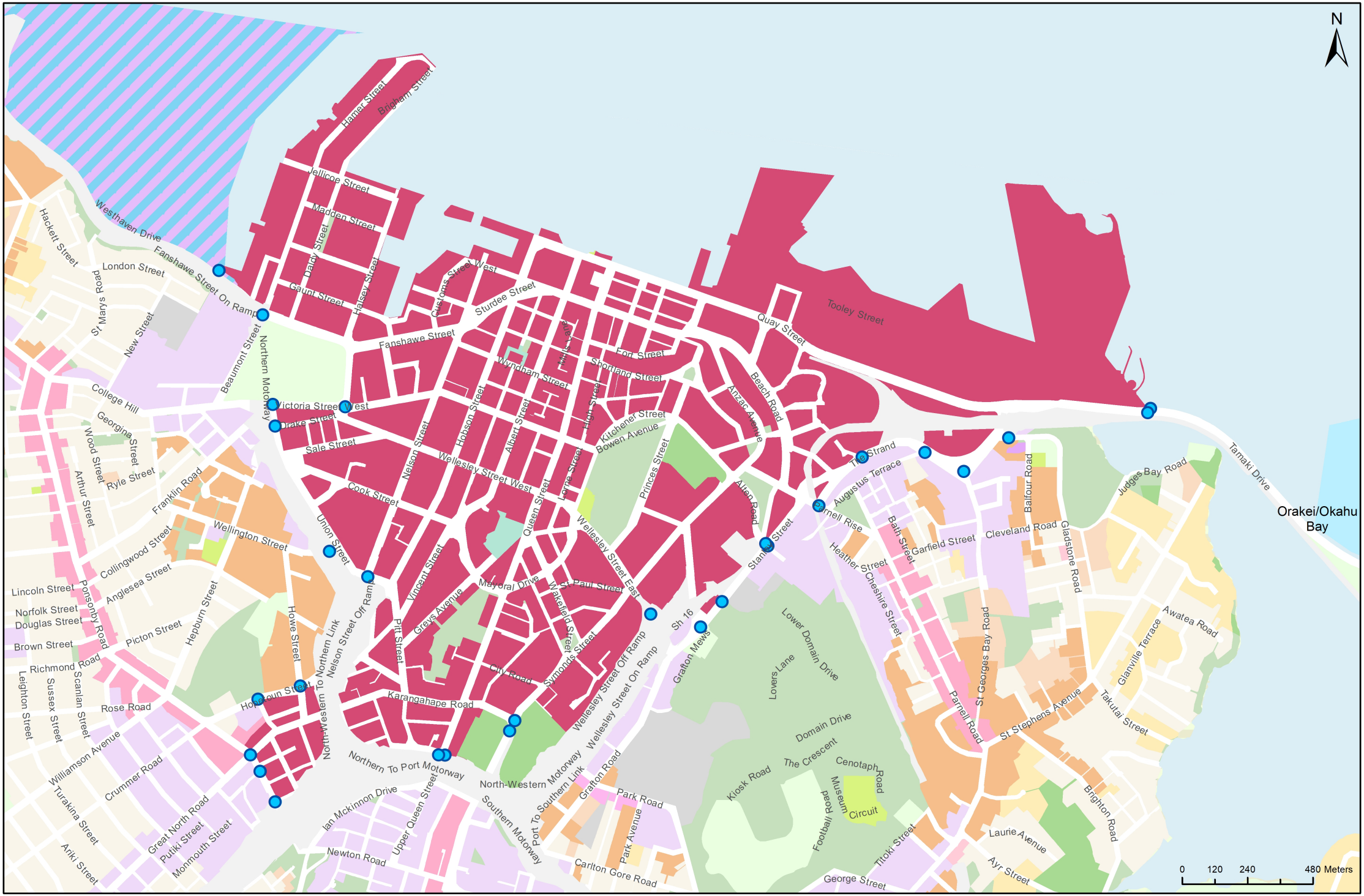
Metro Centre - Westgate / Massey North

Appendix 14

City Centre zone edge- Zone ‘entrance points’ map



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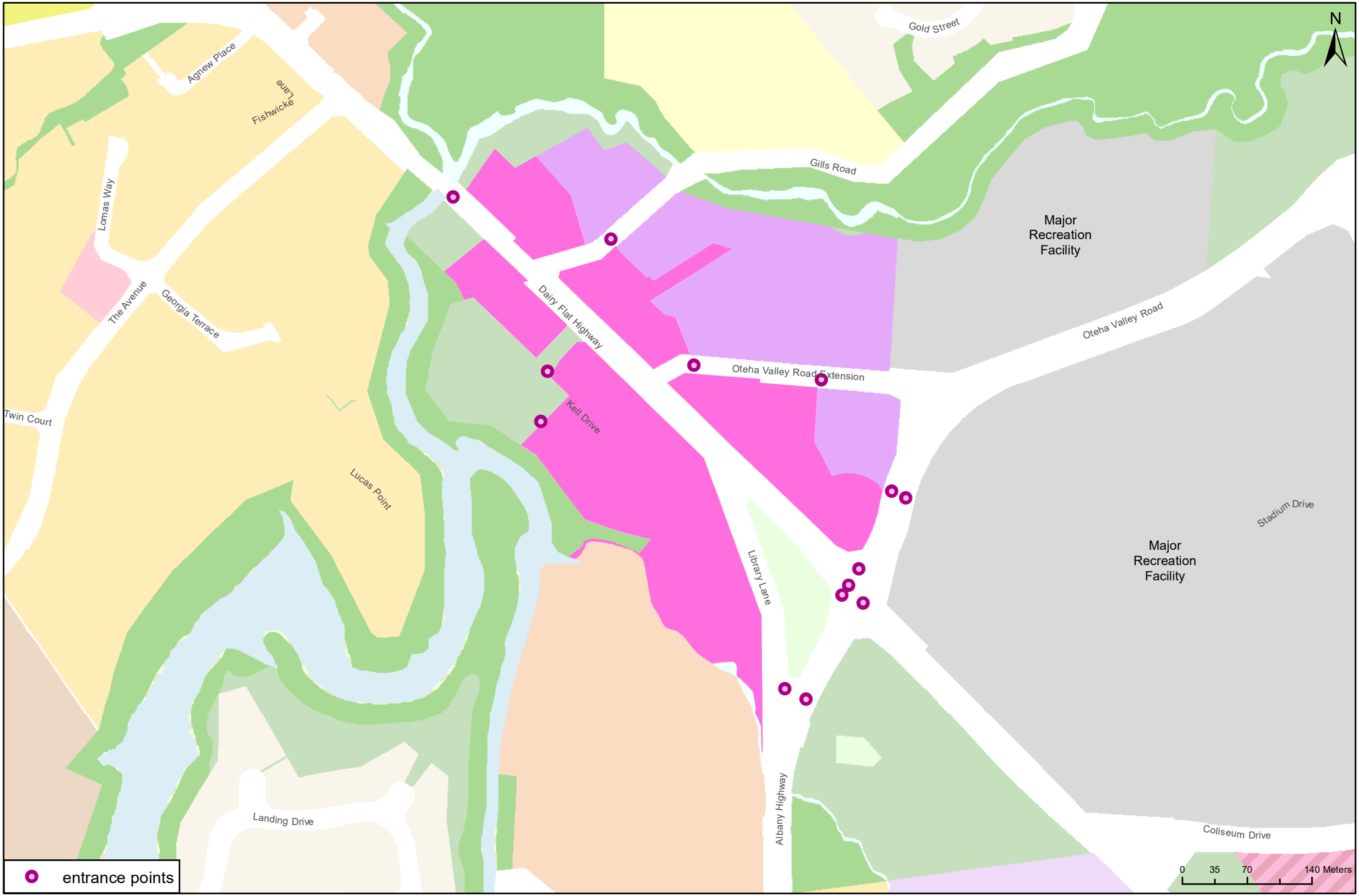
City Centre entrance points

Appendix 15

200m walking distance from local centres: Zone ‘entrance points’ maps



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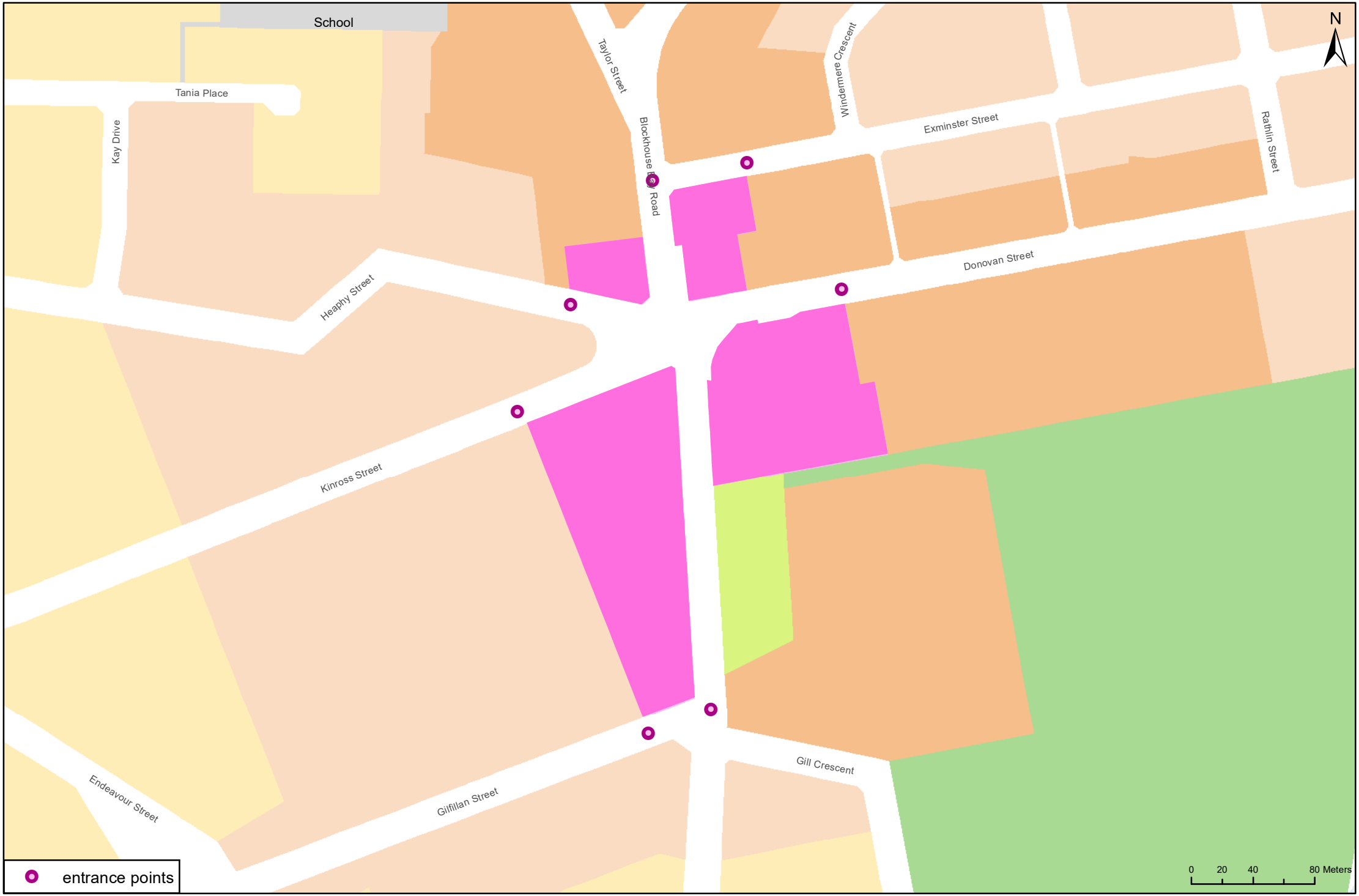

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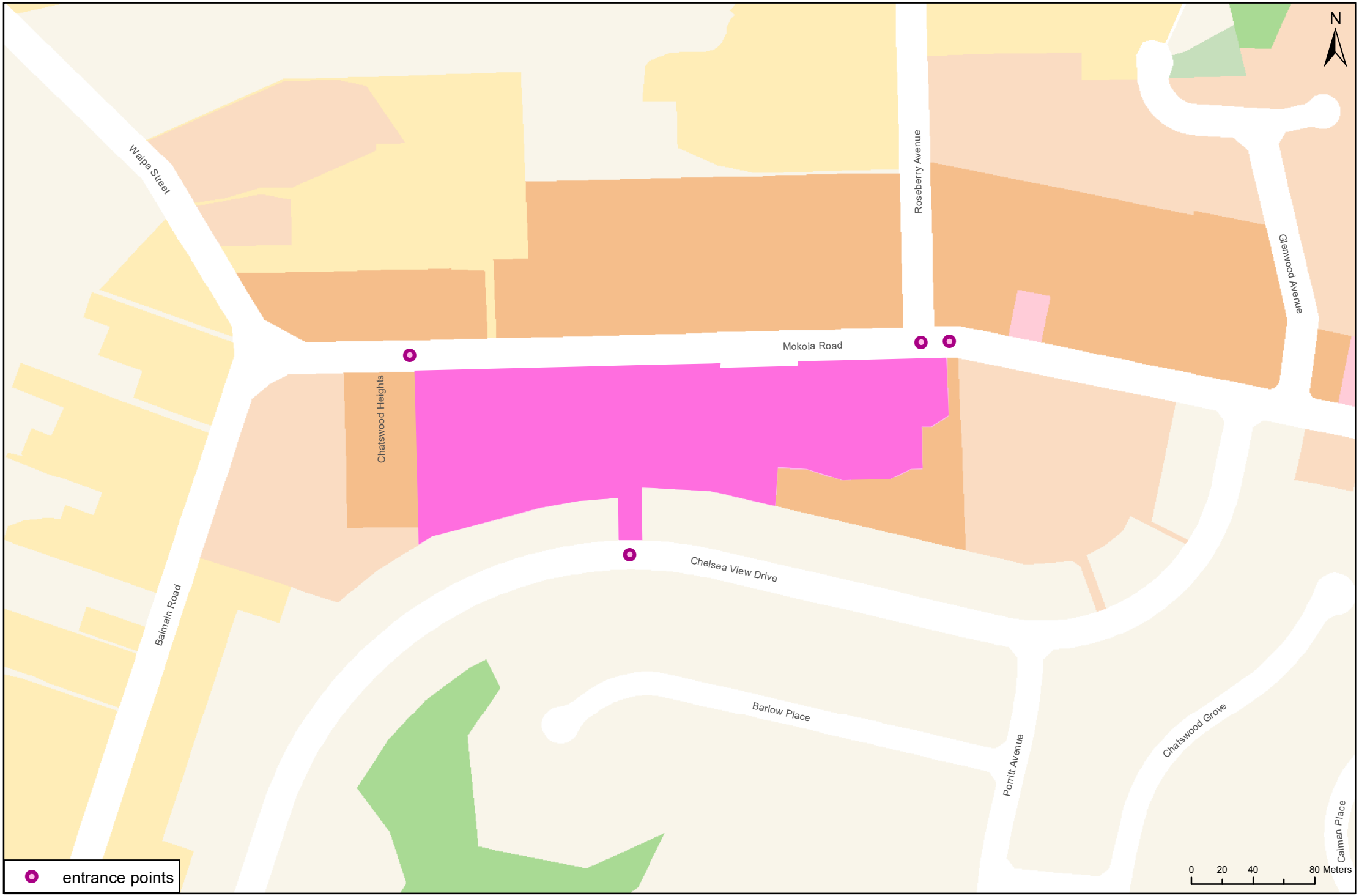
School
N
Bishop Lenihan Place
Florence Carter Avenue
Te Irirangi Drive
Botany Way
Ormiston Road
Chapel Road
Fusion Road
Triumph Road
Koropiko Lane
Michael Jones Drive
Riechelmann Court
Mark Carter Place
Eroni Clarke Close
entrance points
0 20 40 80 Meters



Auckland Council
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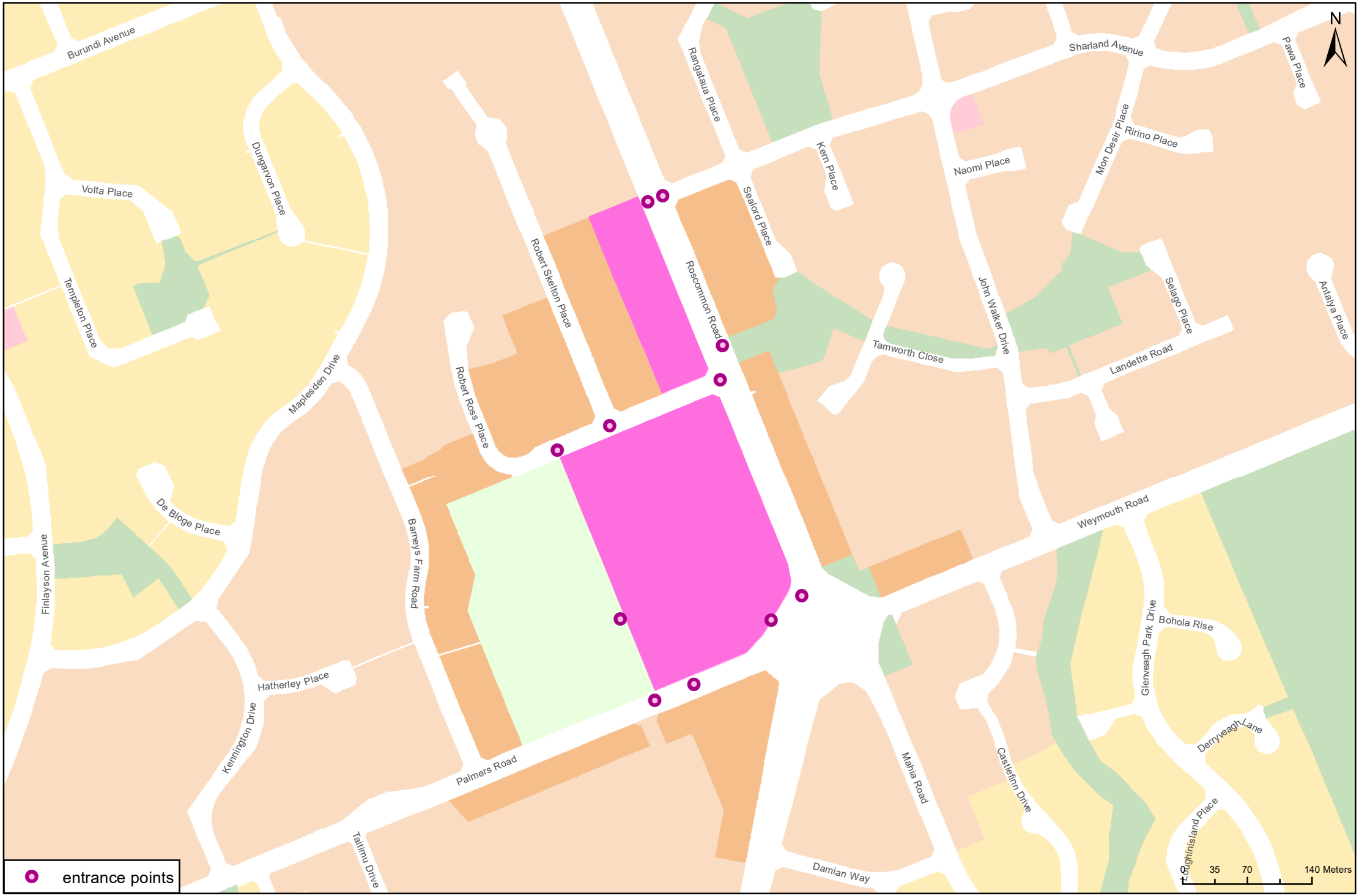

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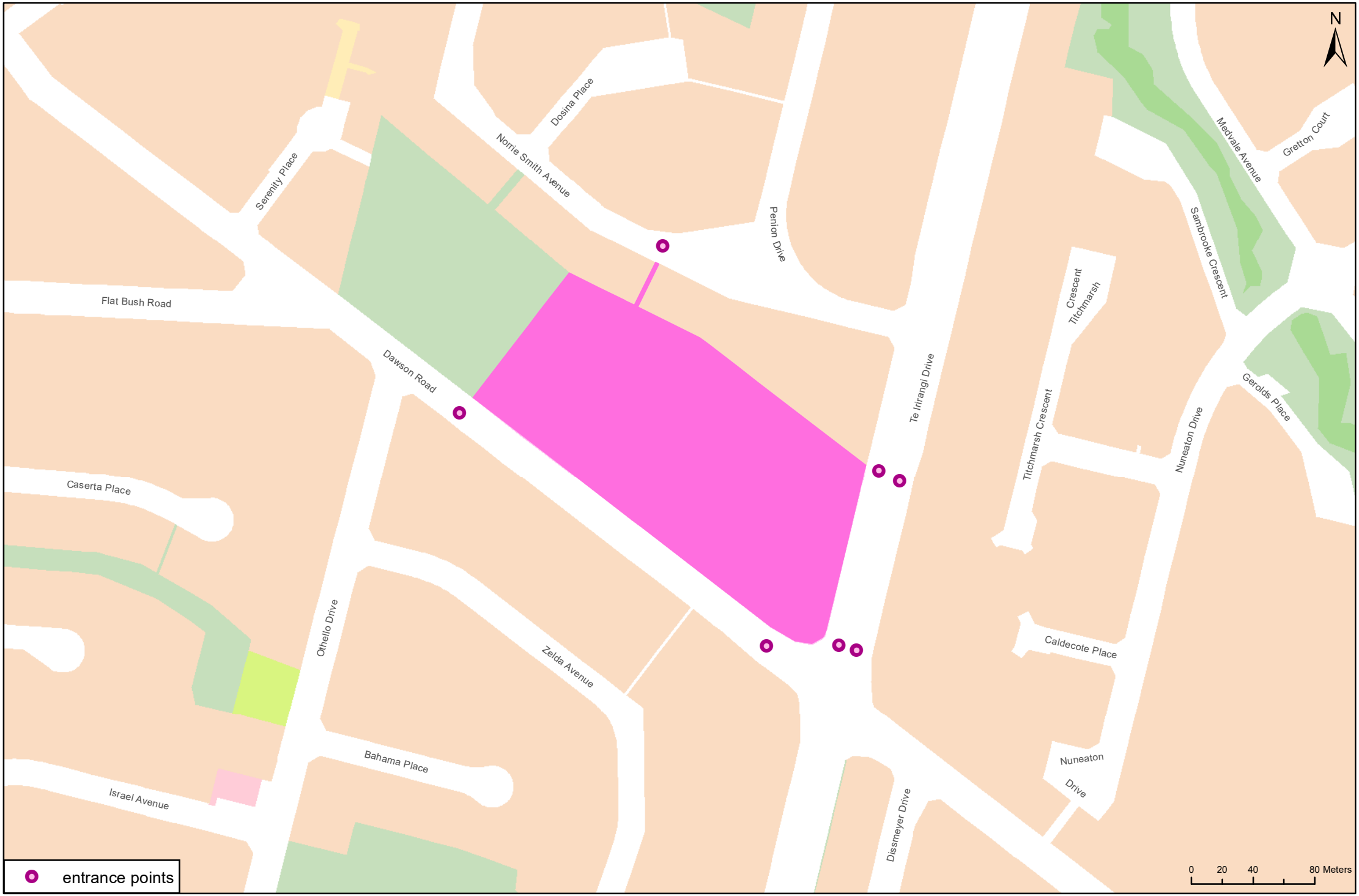

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Auckland Council
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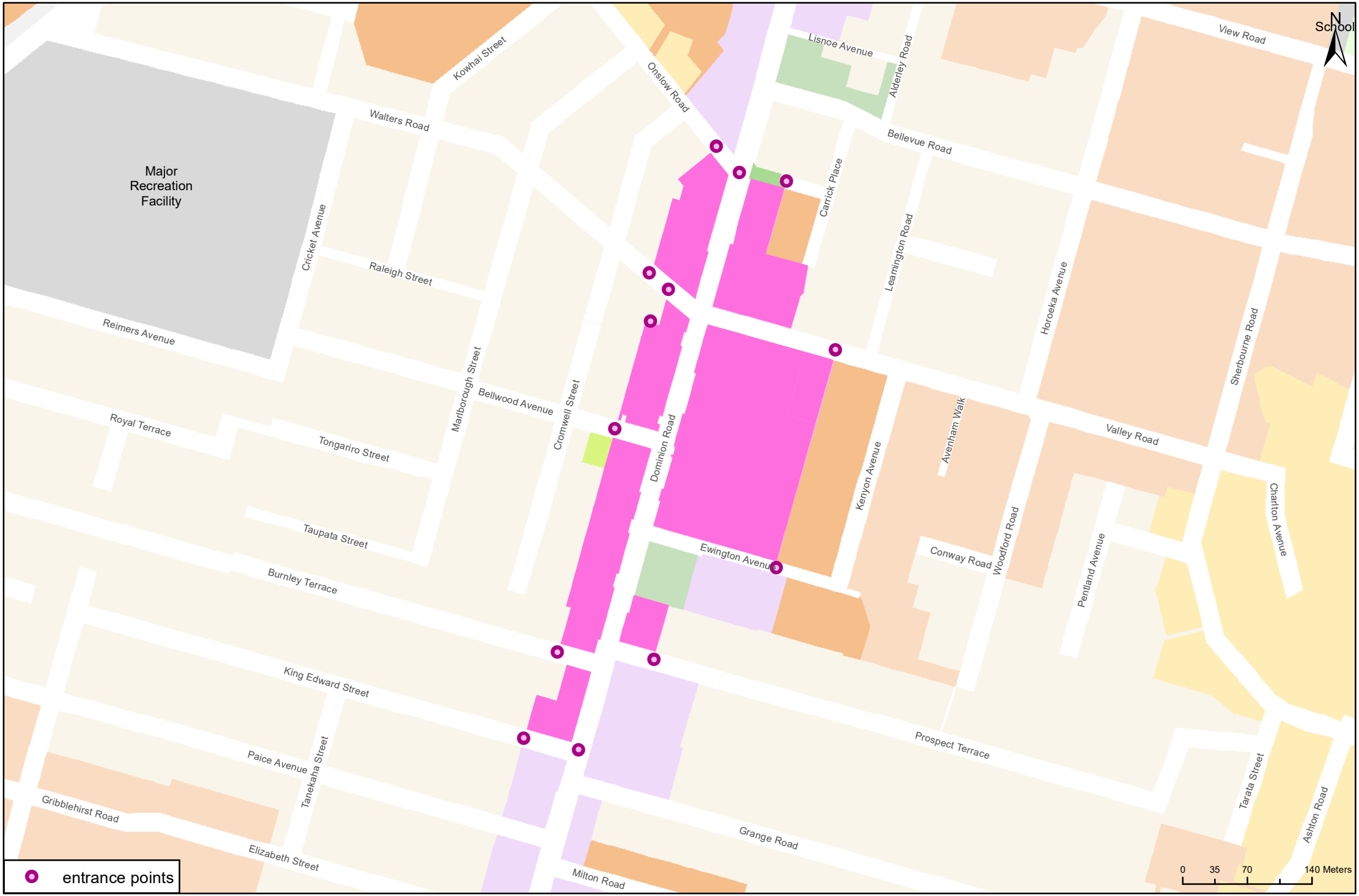

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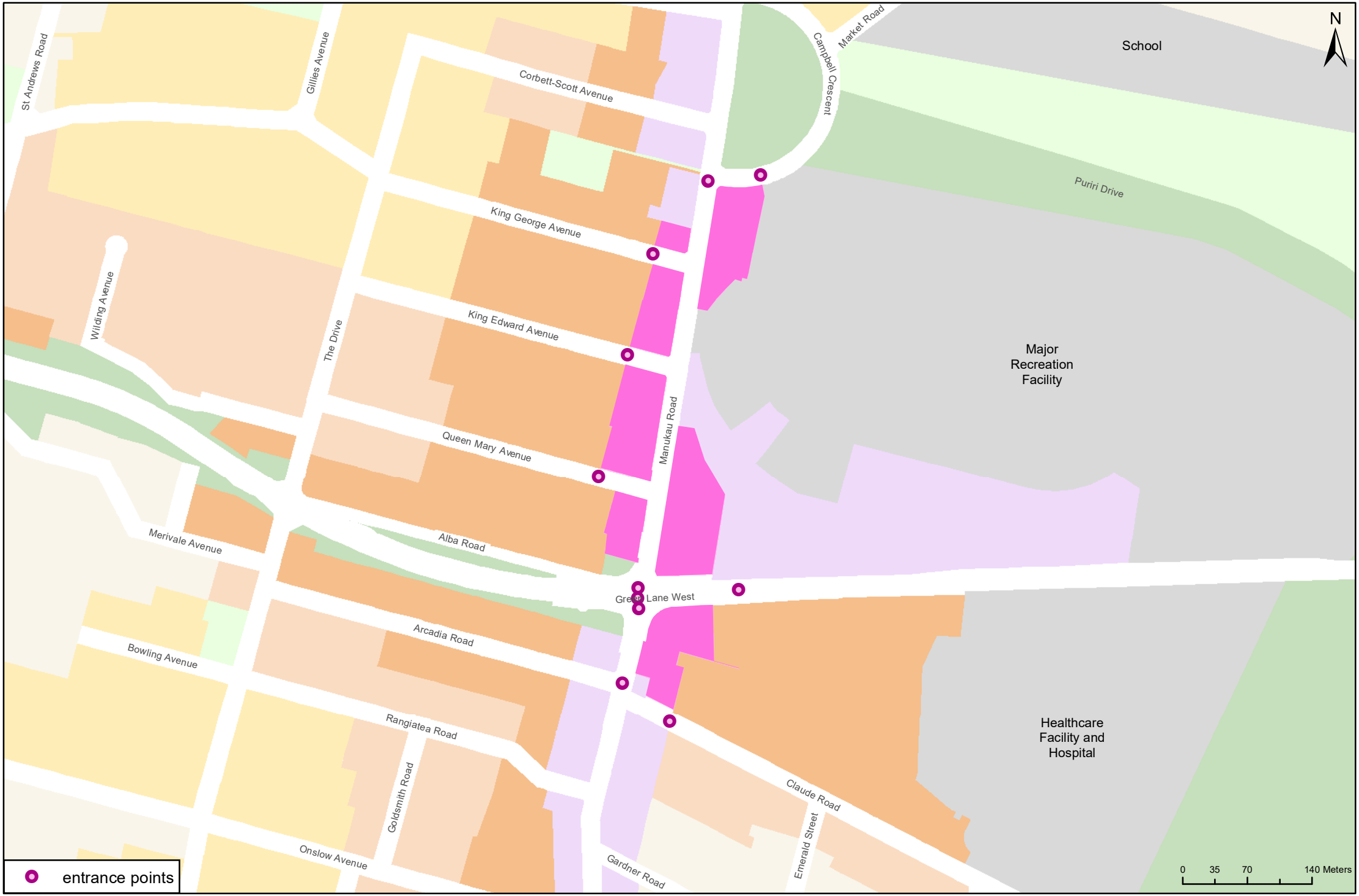

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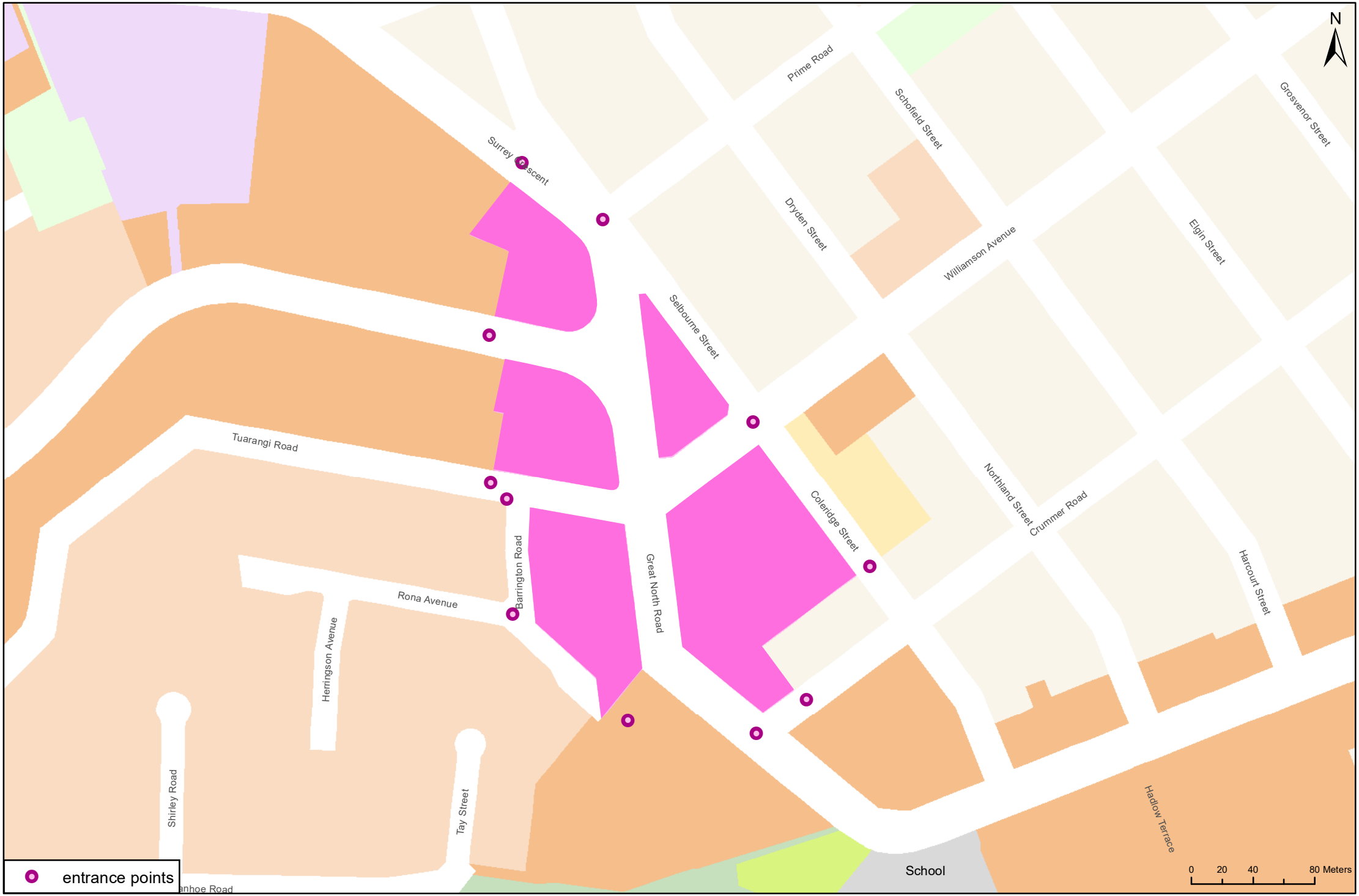

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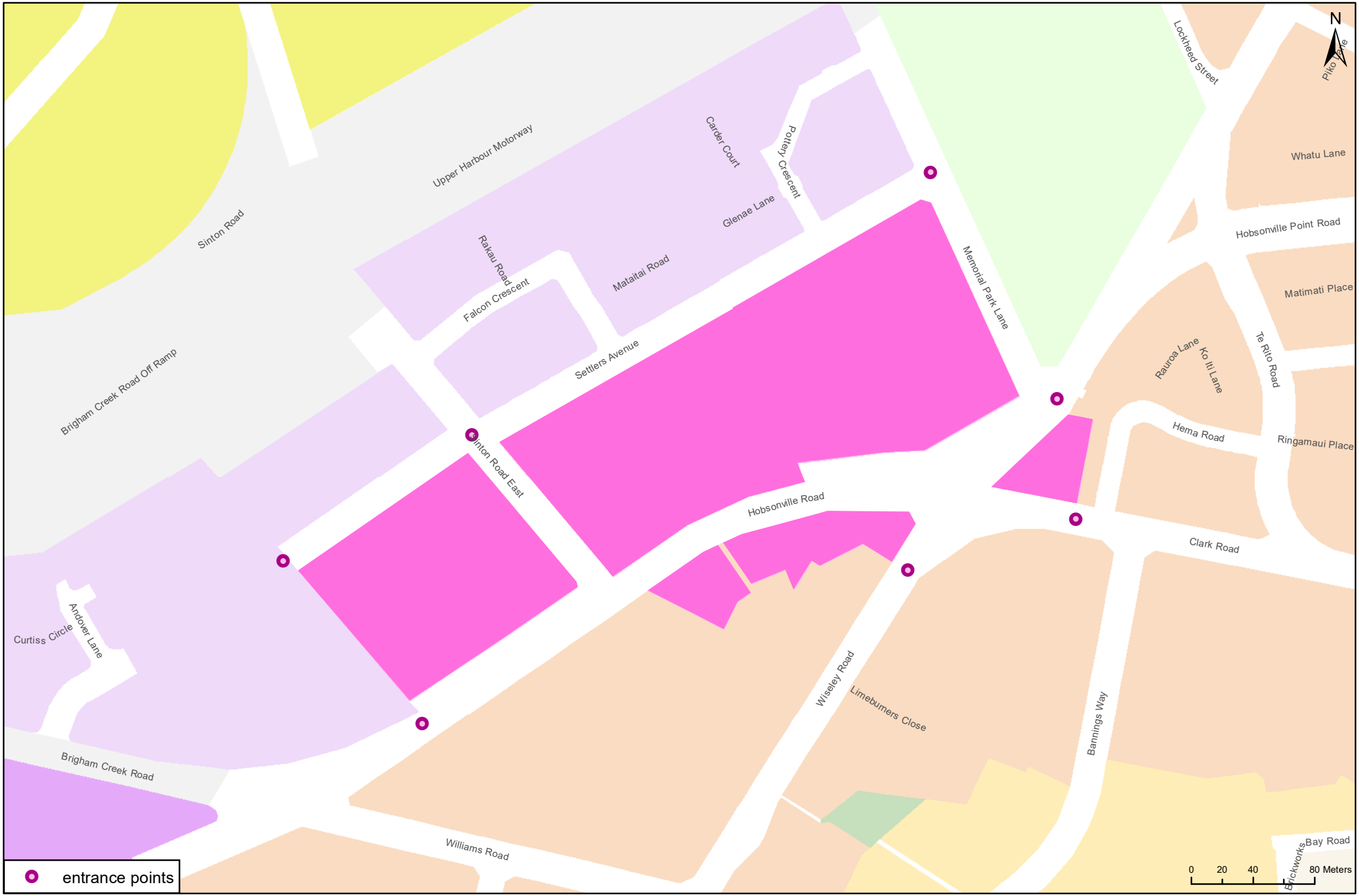

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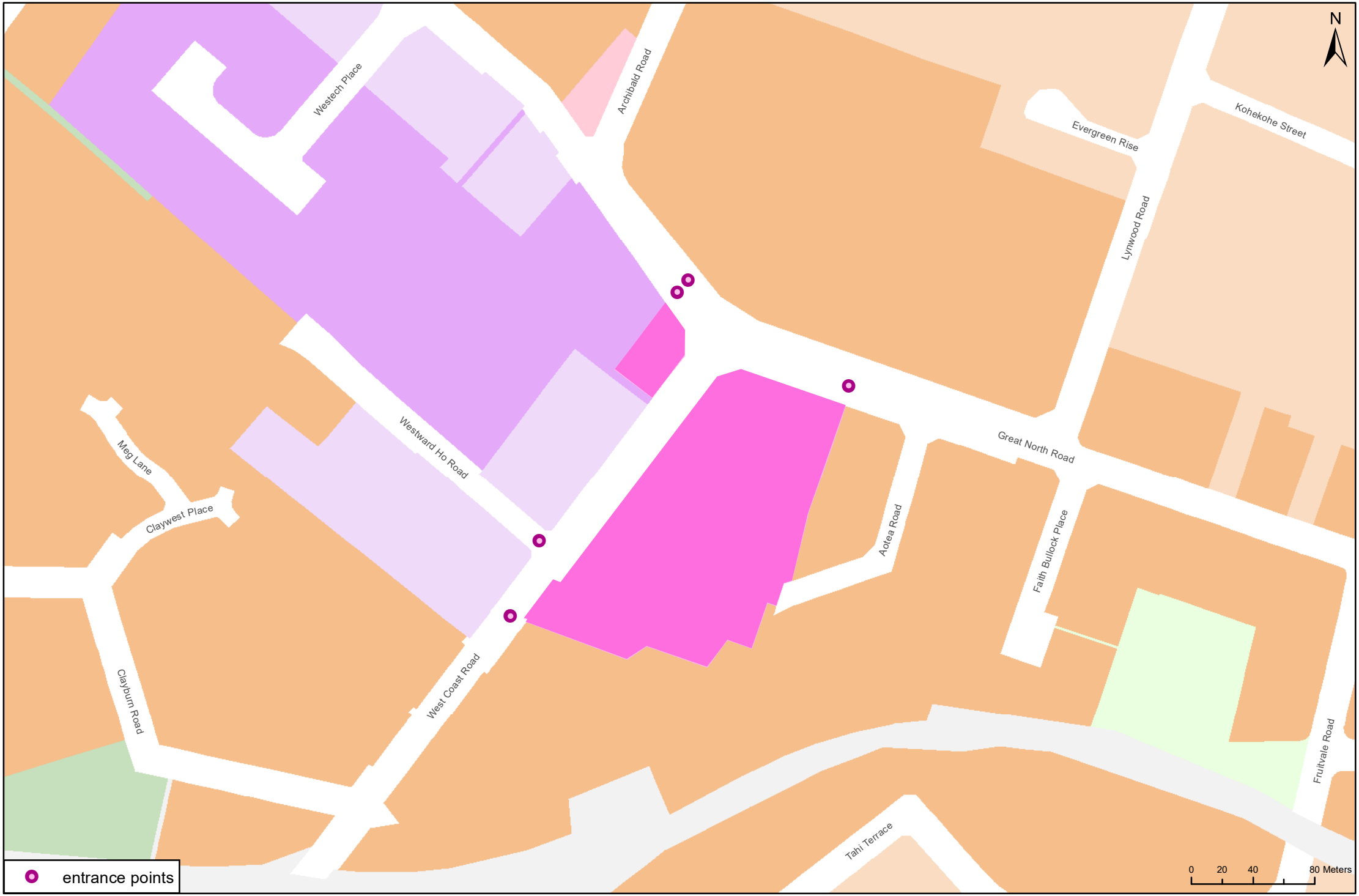

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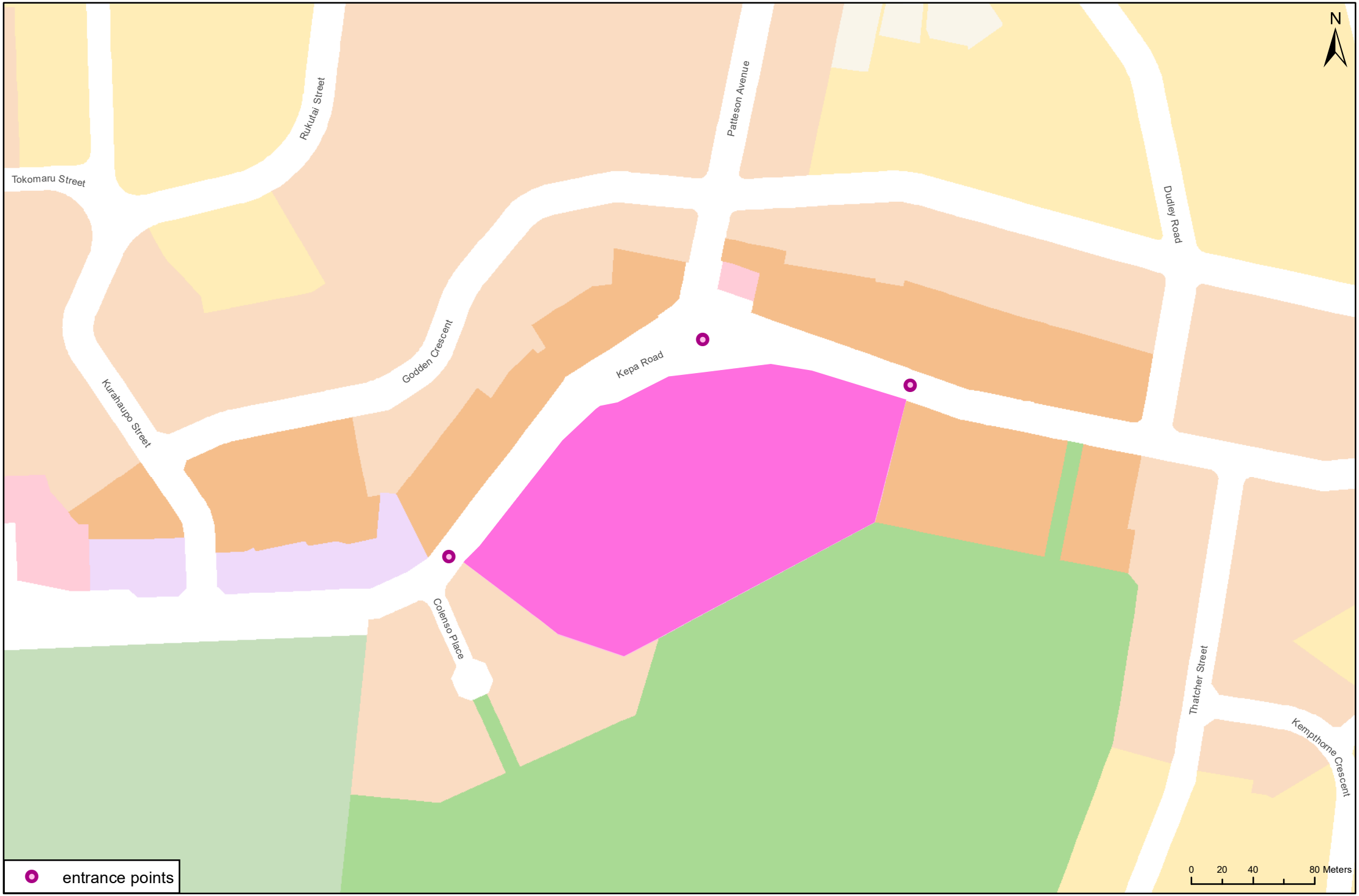

Auckland Council
Te Kaunihera o Tāmaki Makaurau

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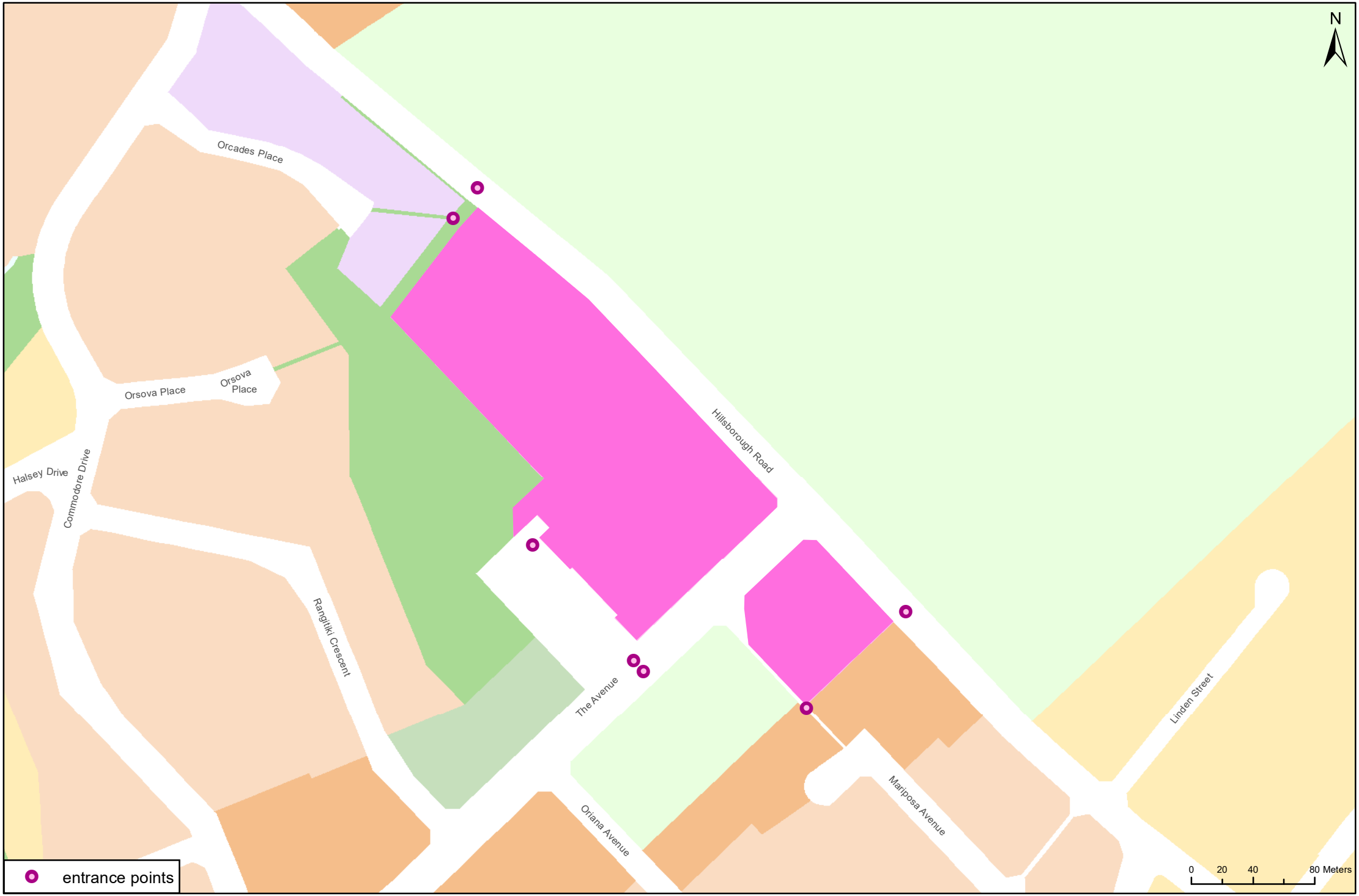

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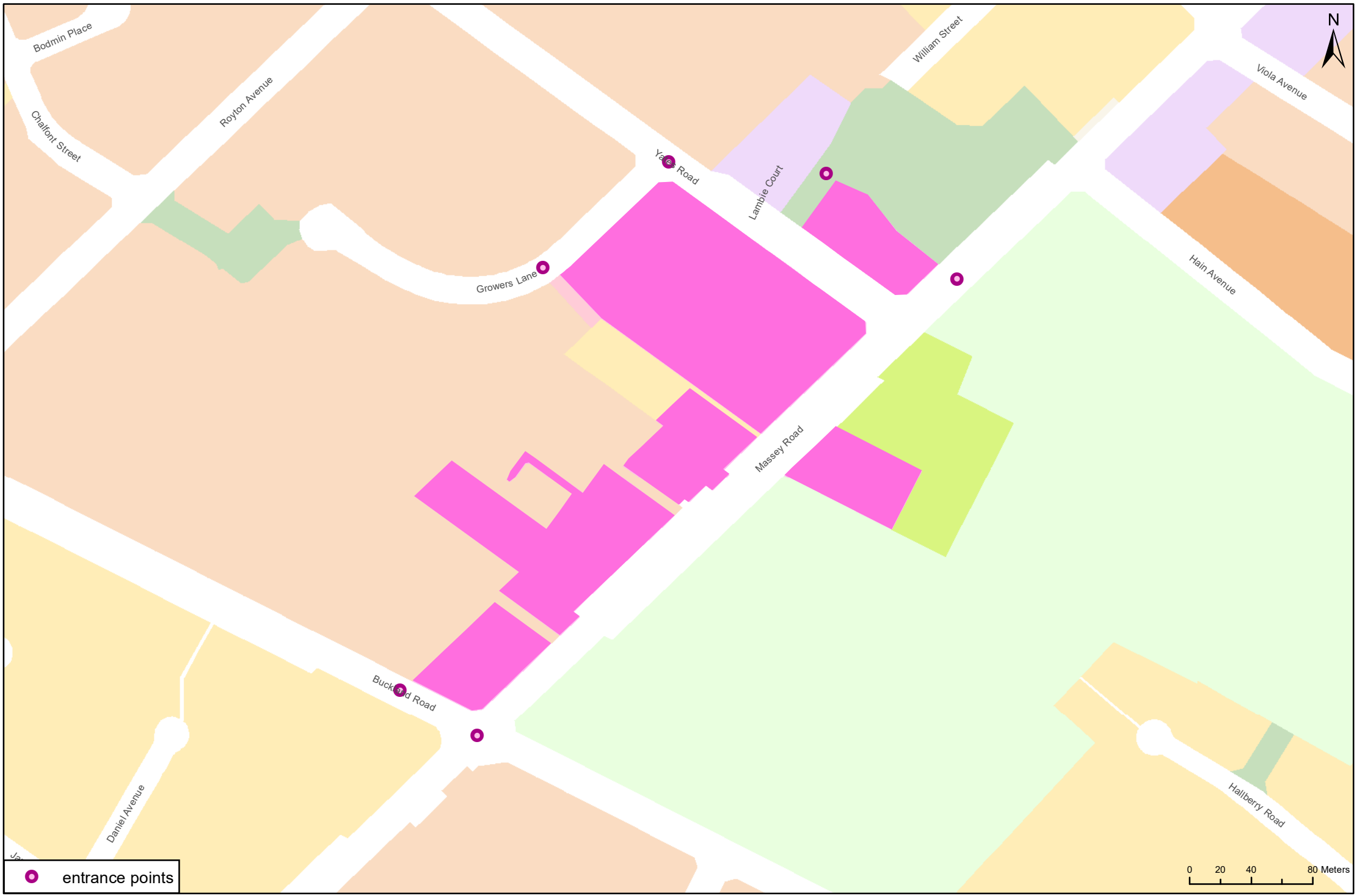

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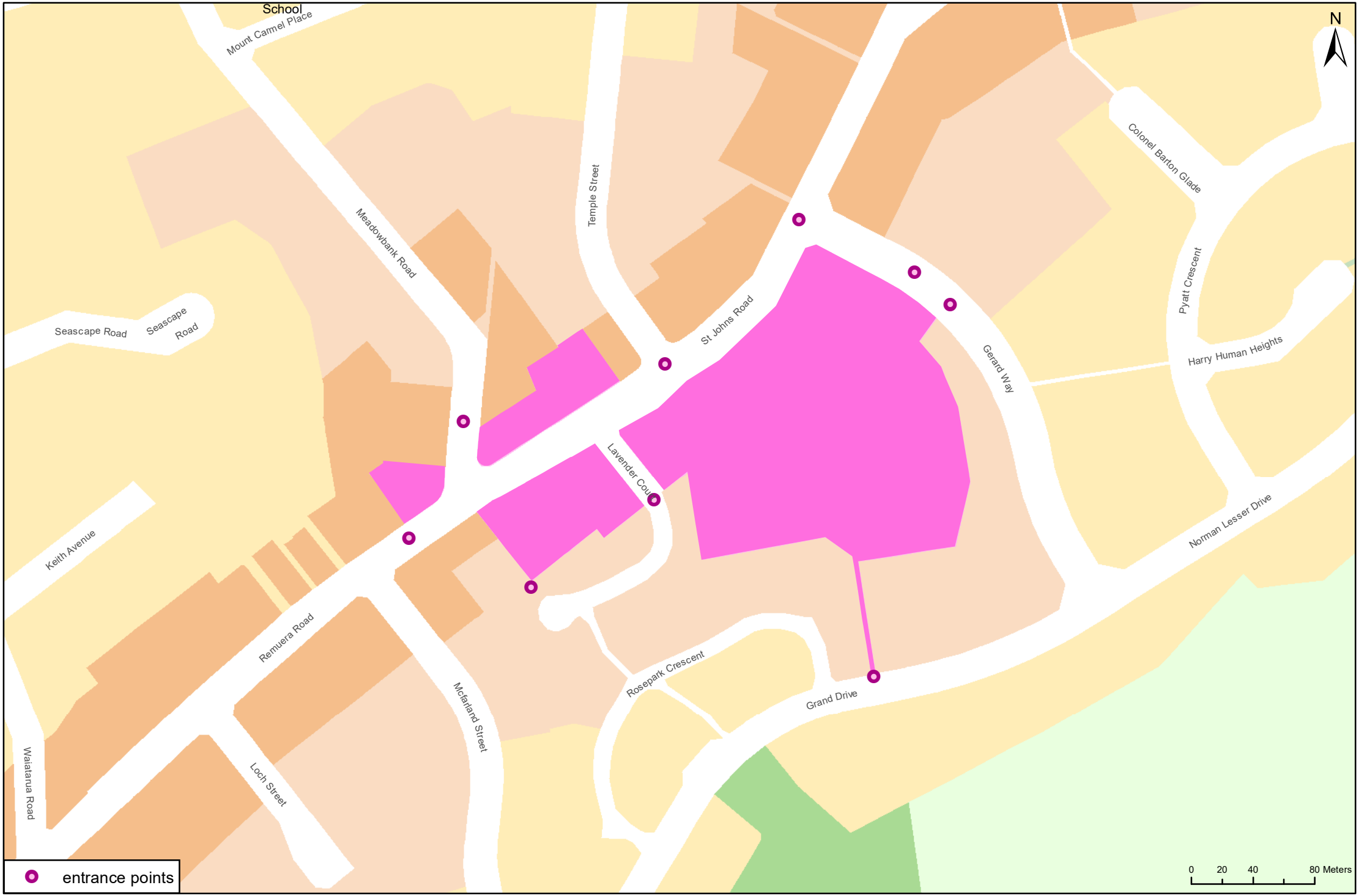

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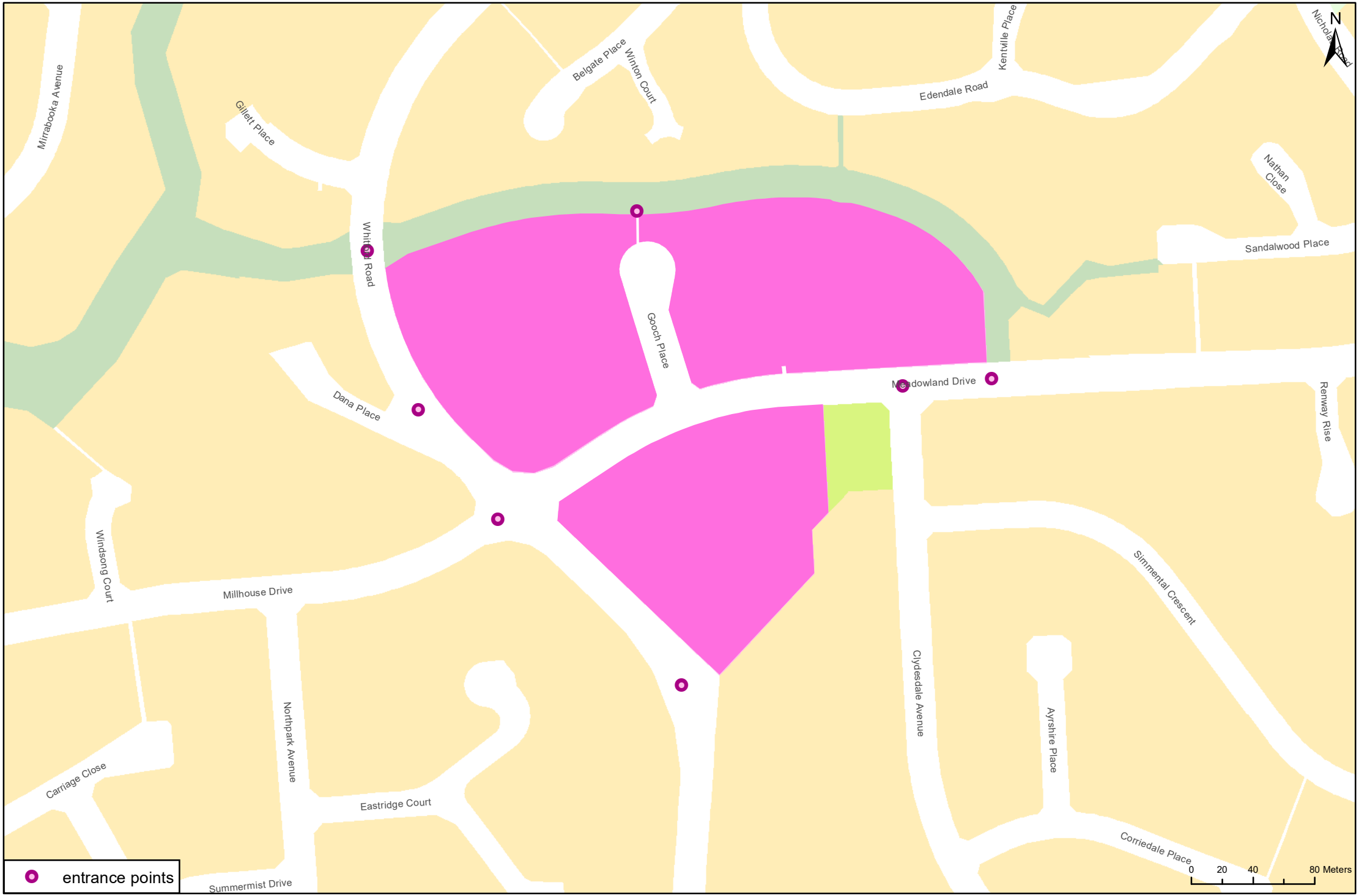

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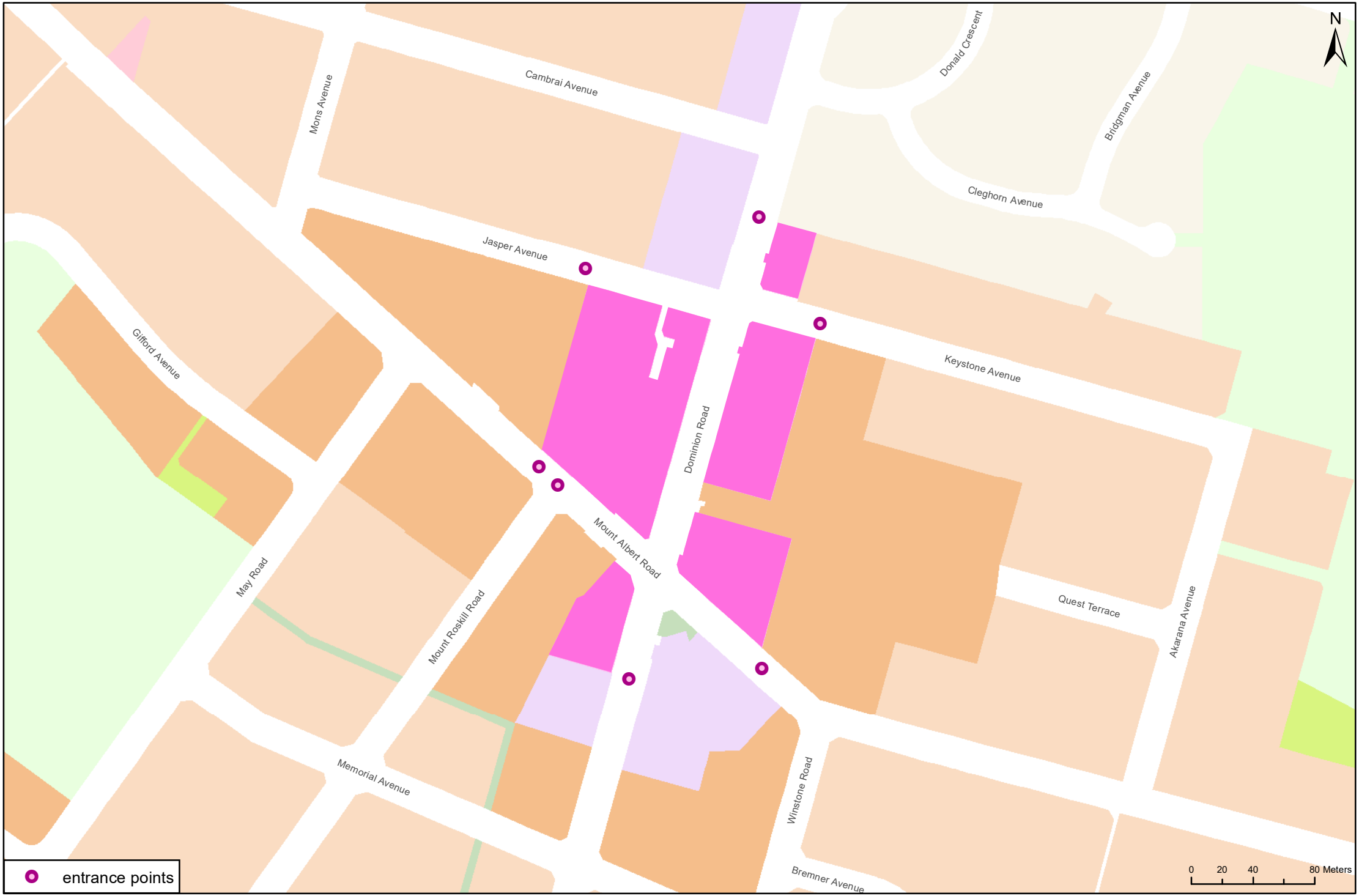

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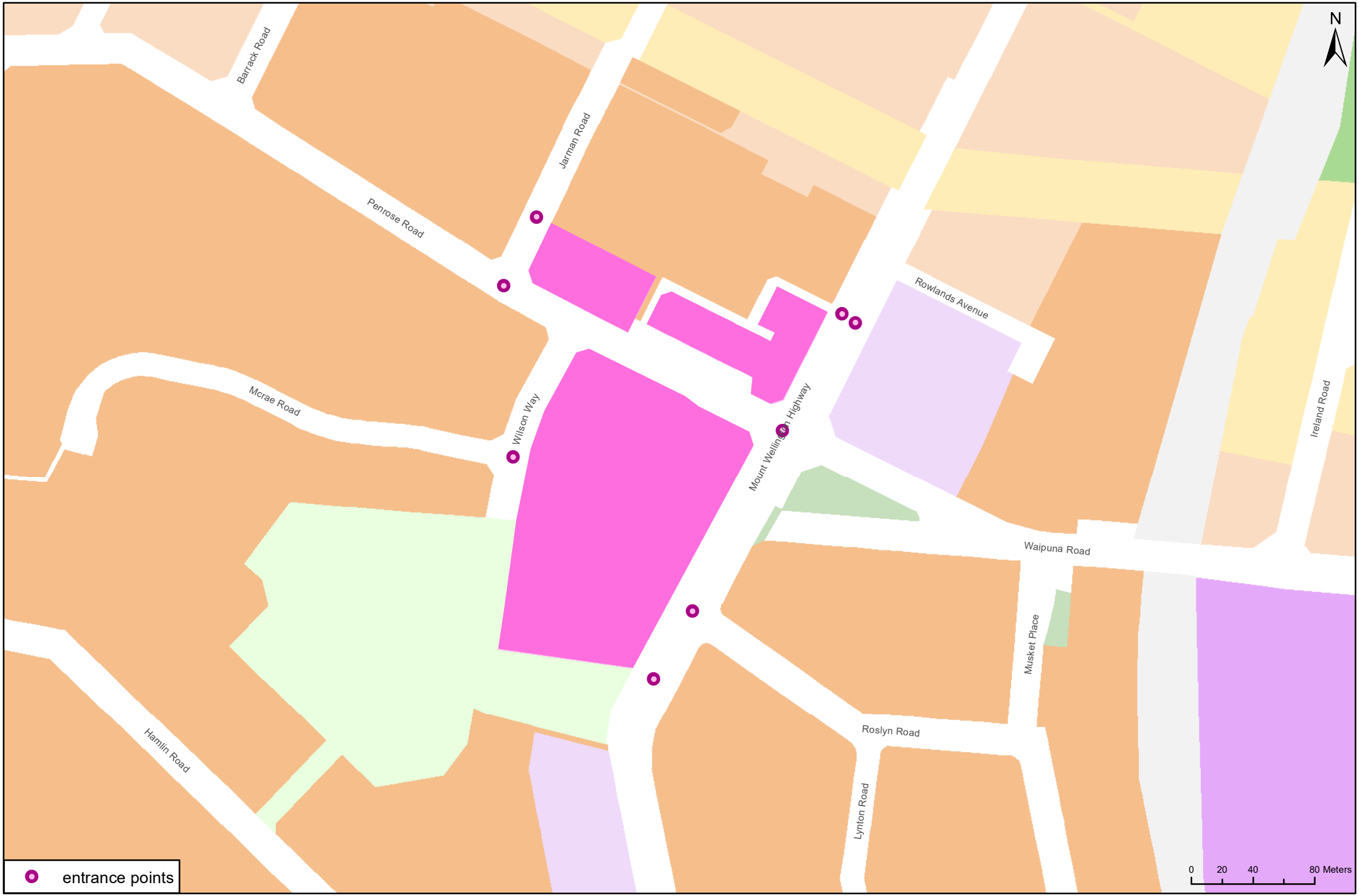

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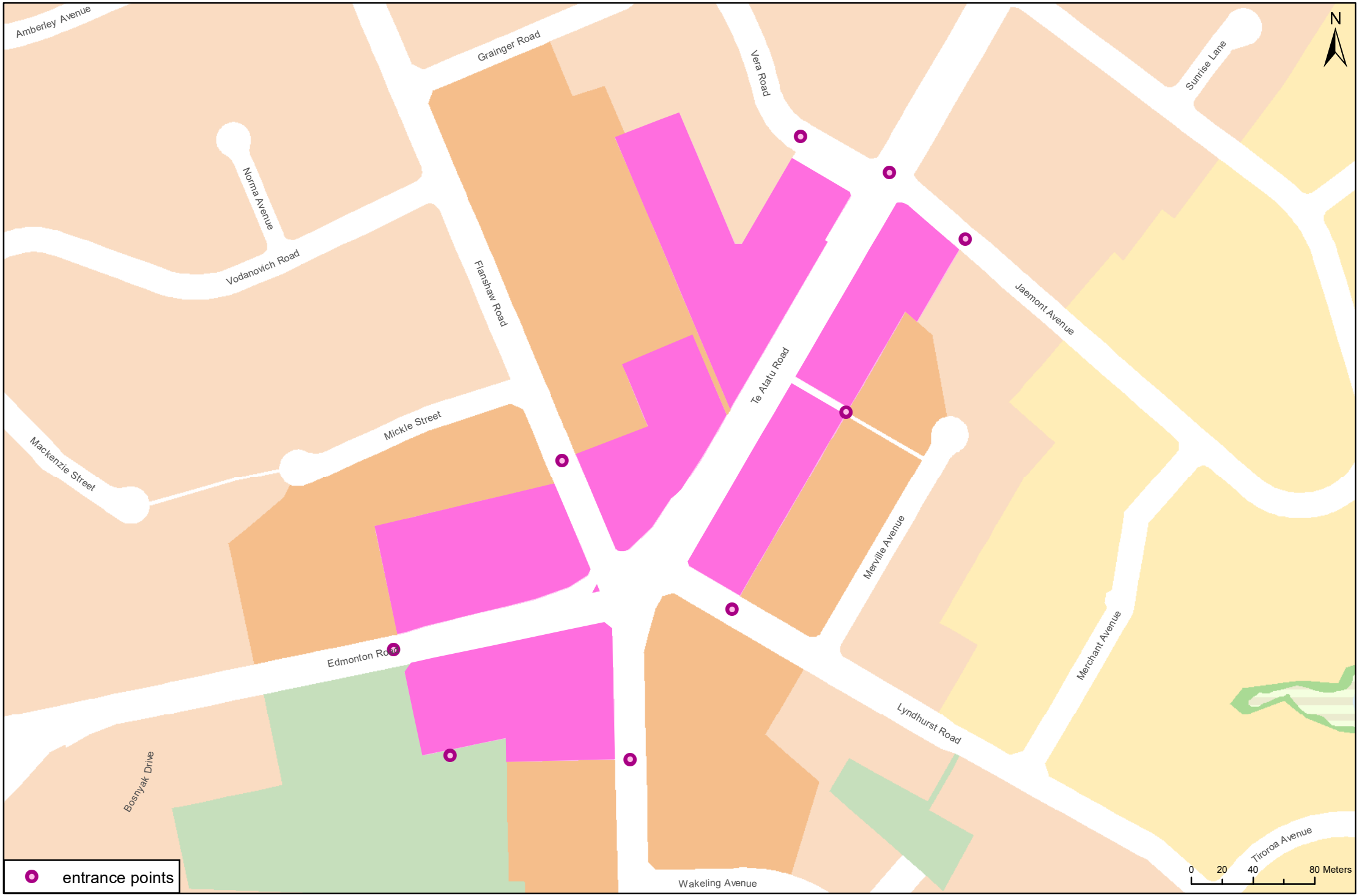
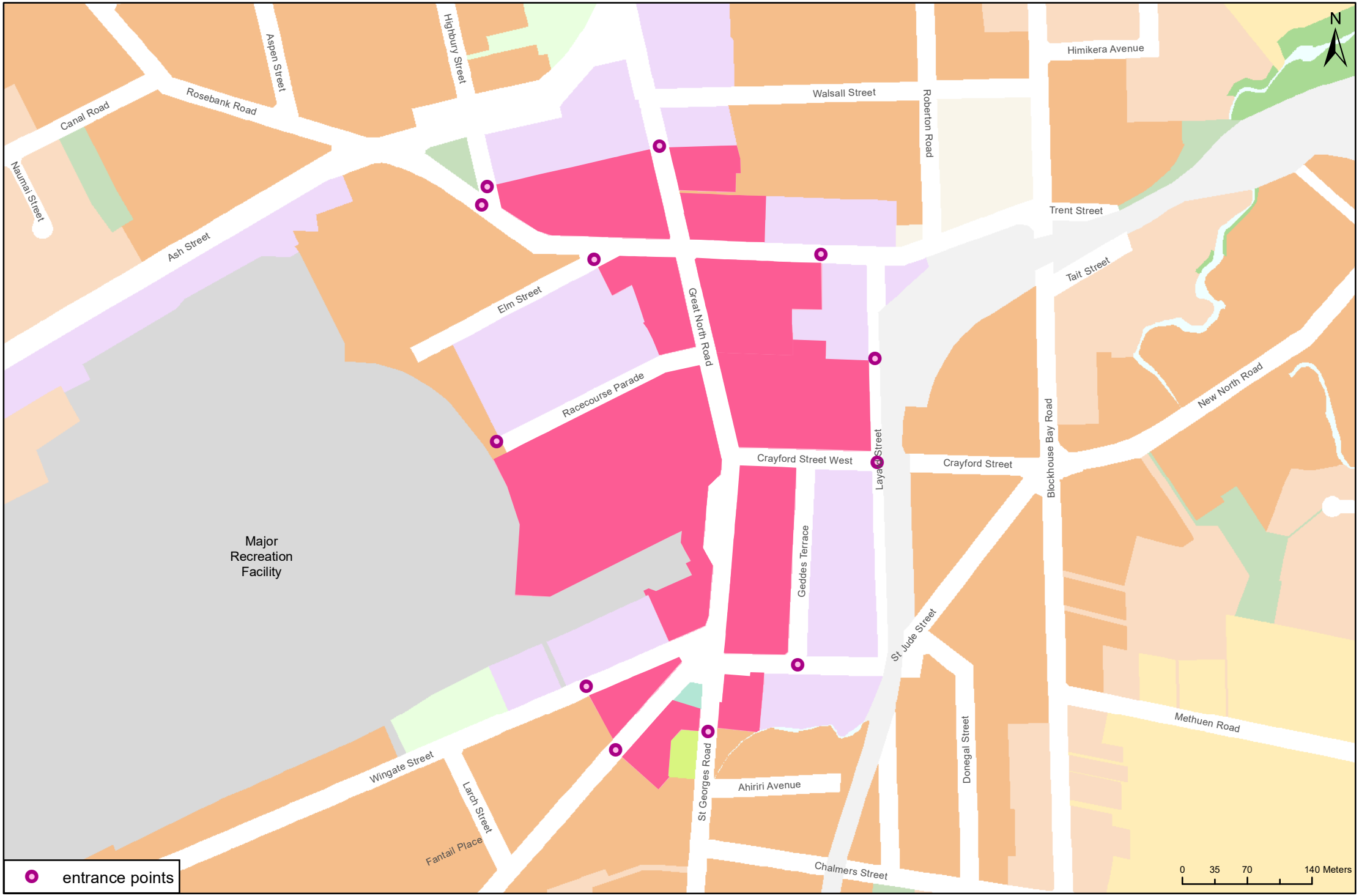
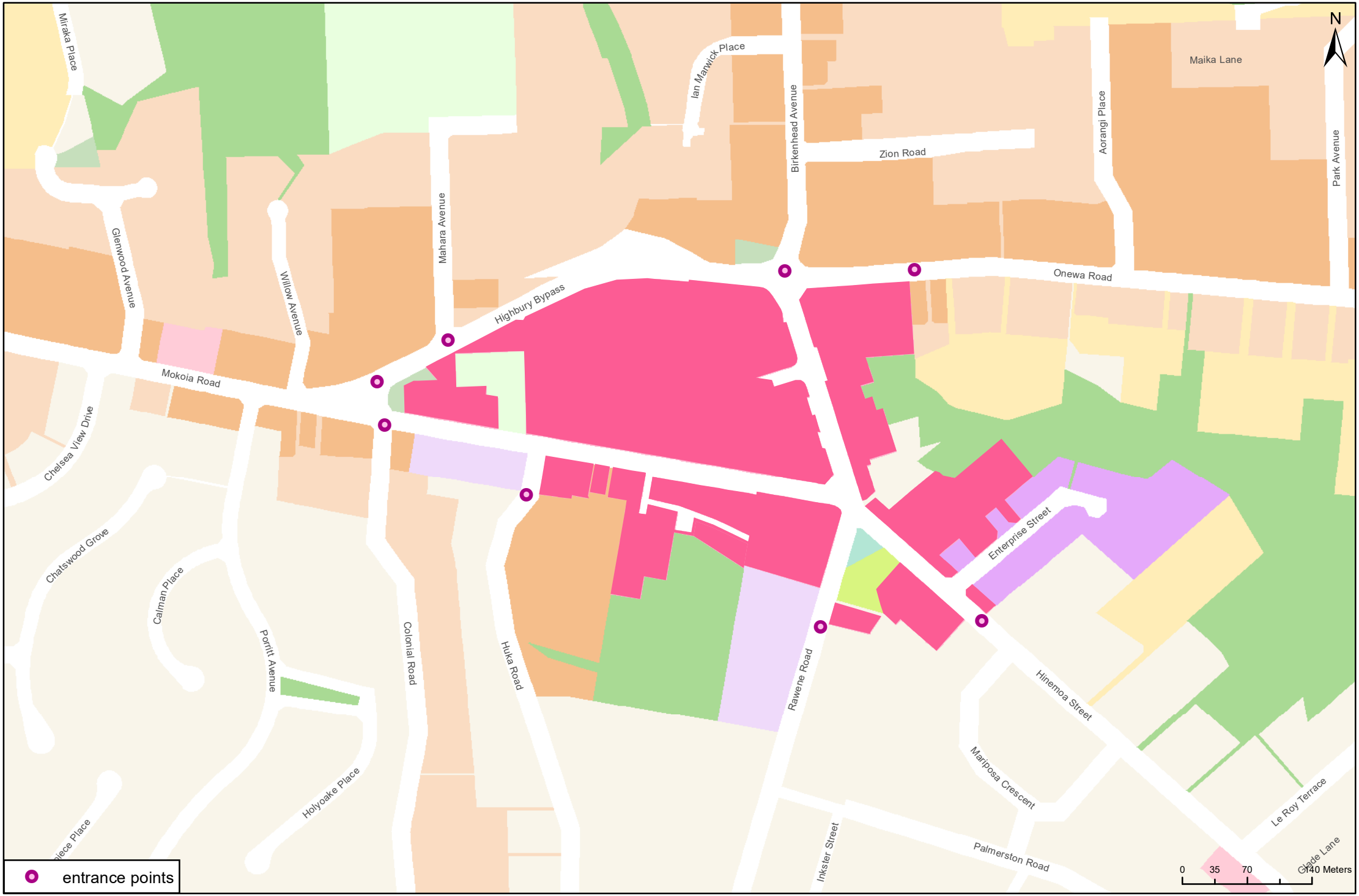
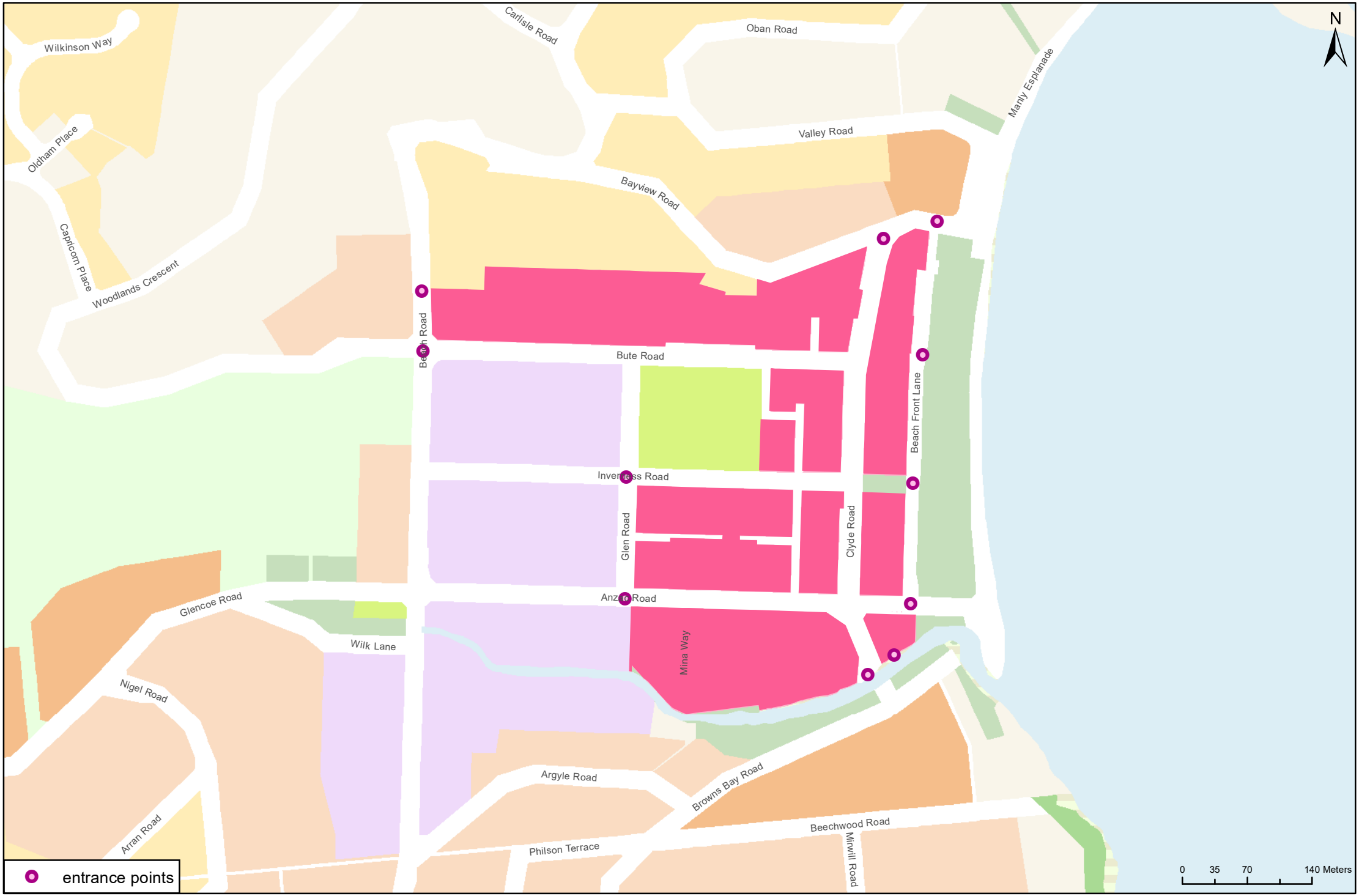

Amberley Avenue
Grainger Road
Vera Road
Sunrise Lane
Norma Avenue
Vodanovich Road
Flanshaw Road
Jaemont Avenue
Te Atatu Road
Mickle Street
Mackenzie Street
Merville Avenue
Merchant Avenue
Edmonton Road
Lyndhurst Road
Bosnyak Drive
Wakeling Avenue
Tiroroa Avenue
N
entrance points
0 20 40 80 Meters

Appendix 16

400m walking distance town centres: Zone ‘entrance points’ maps


N
Himikera Avenue
Walsall Street
Roberton Road
Trent Street
Tait Street
Canal Road
Rosebank Road
Aspen Street
Highbury Street
Naumai Street
Ash Street
Elm Street
Great North Road
Racecourse Parade
Crayford Street West
Layard Street
Crayford Street
Blockhouse Bay Road
New North Road
Major
Recreation
Facility
Geddes Terrace
St Jude Street
Donegal Street
Methuen Road
Wingate Street
Larch Street
Fantail Place
St Georges Road
Ahiriri Avenue
Chalmers Street
entrance points
0 35 70 140 Meters


N
Miraka Place
Ian Manwick Place
Birkenhead Avenue
Zion Road
Aorangi Place
Maika Lane
Park Avenue
Glenwood Avenue
Willow Avenue
Mahara Avenue
Highbury Bypass
Onewa Road
Mokoia Road
Chelsea View Drive
Chatswood Grove
Calman Place
Porritt Avenue
Colonial Road
Huka Road
Rawene Road
Enterprise Street
Hinemoa Street
Mariposa Crescent
Le Roy Terrace
Inkster Street
Palmerston Road
Holyoake Place
entrance points
0 35 70 140 Meters



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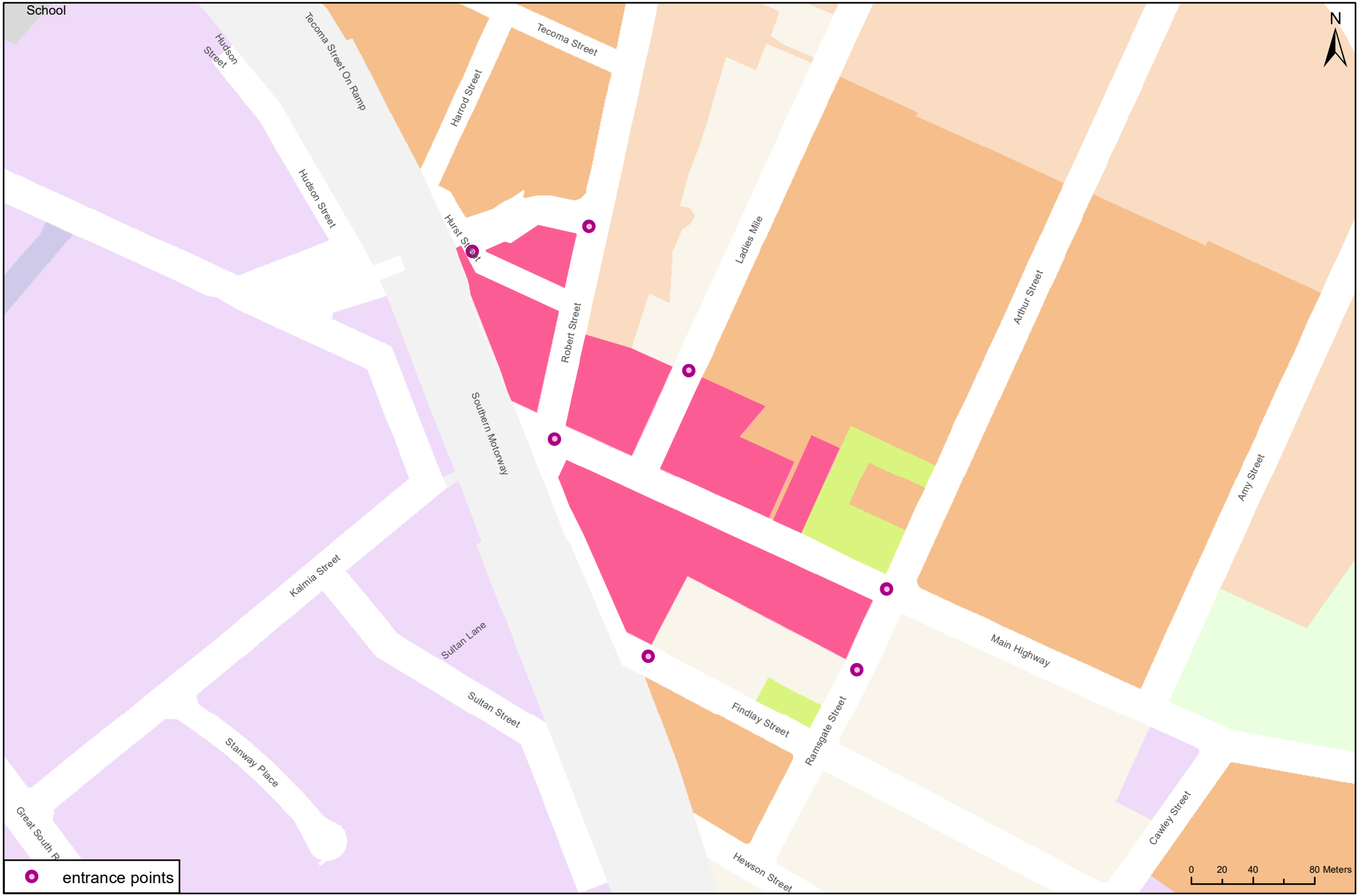
St Leonards Road
High Street
Shoal Bay Road
Calliope Road
Kerr Street
St Aubyn Street
Fleet Street
Rattray Street
Victoria Road
Bartley Terrace
Devon Lane
Huia Street
Clarence Street
Kapai Road
Garden Terrace
Anne Street
Buchanan Street
Mays Street
Wynyard Street
Flagstaff Terrace
Queens Parade
King Edward Parade
Marine Square
Devonport West
Devonport East
N
entrance points
0 20 40 80 Meters



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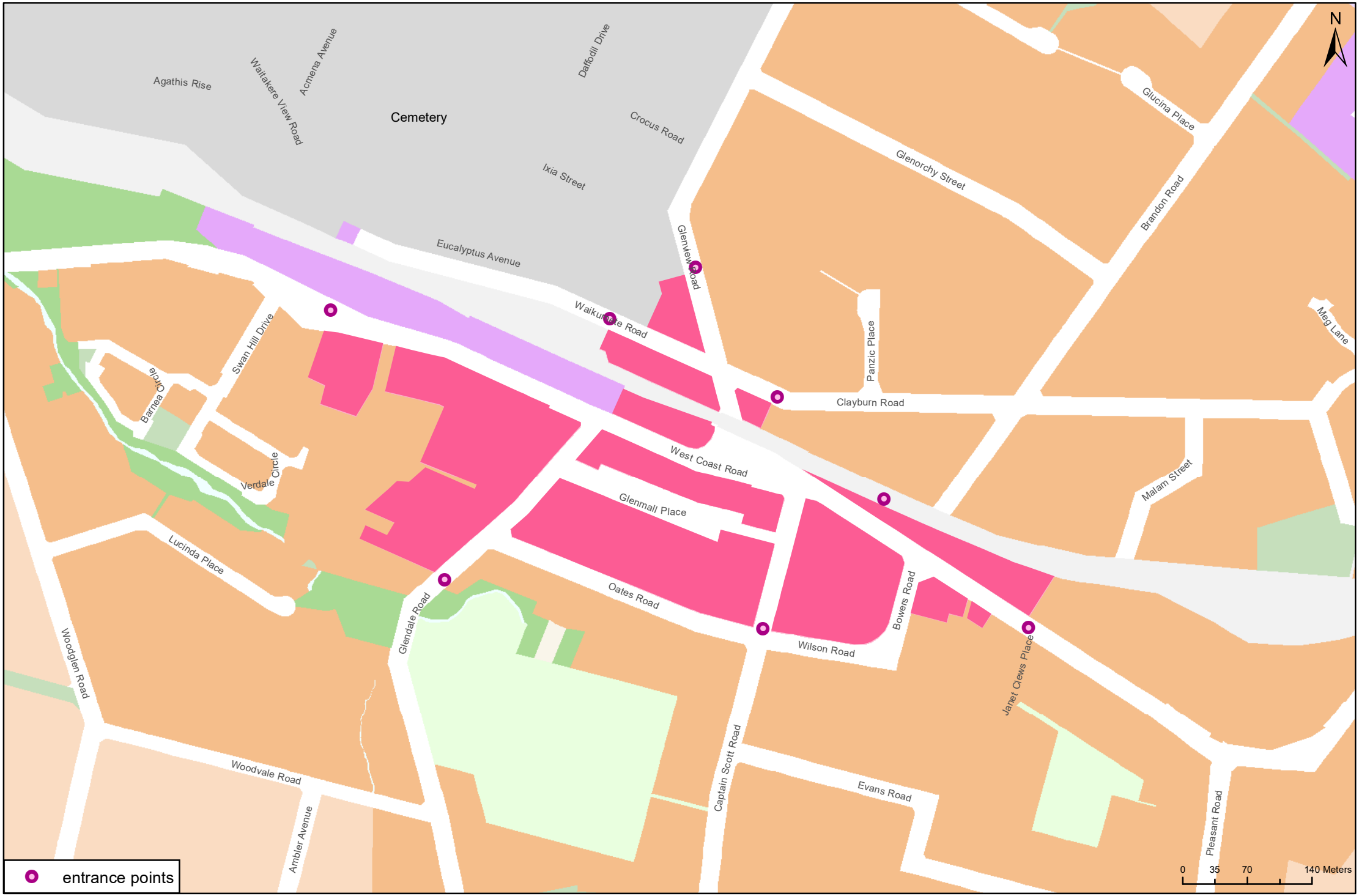

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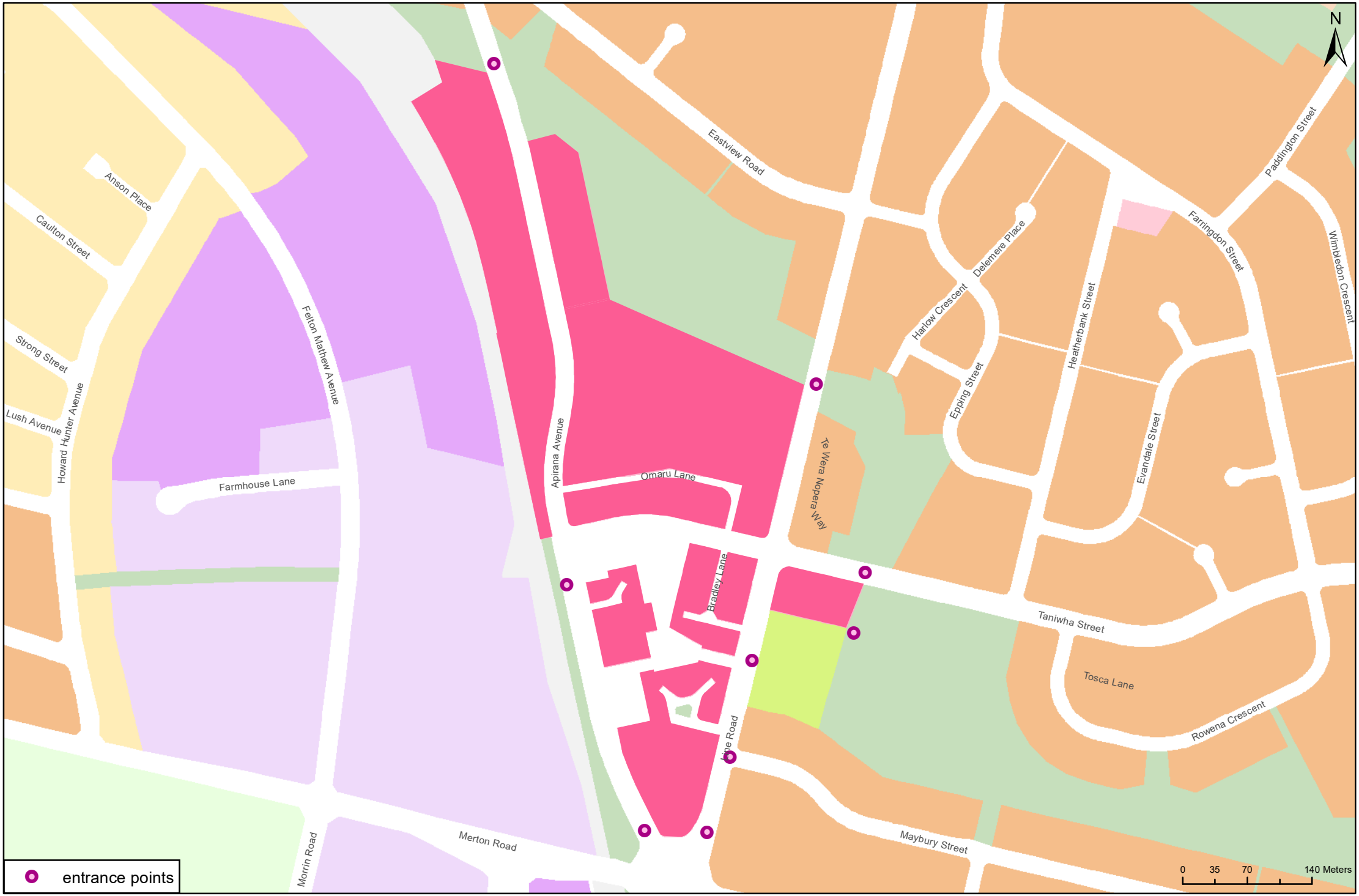

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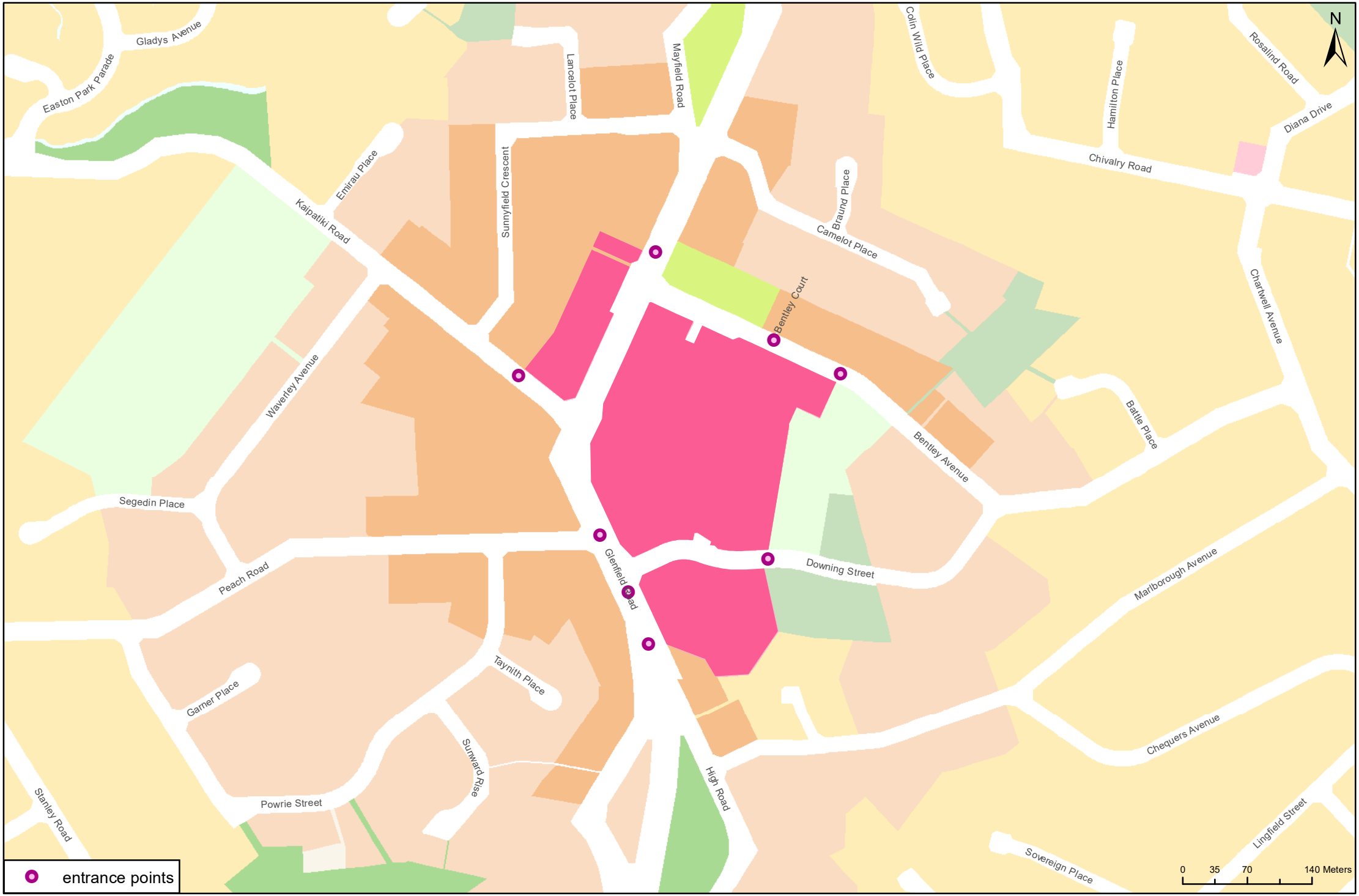

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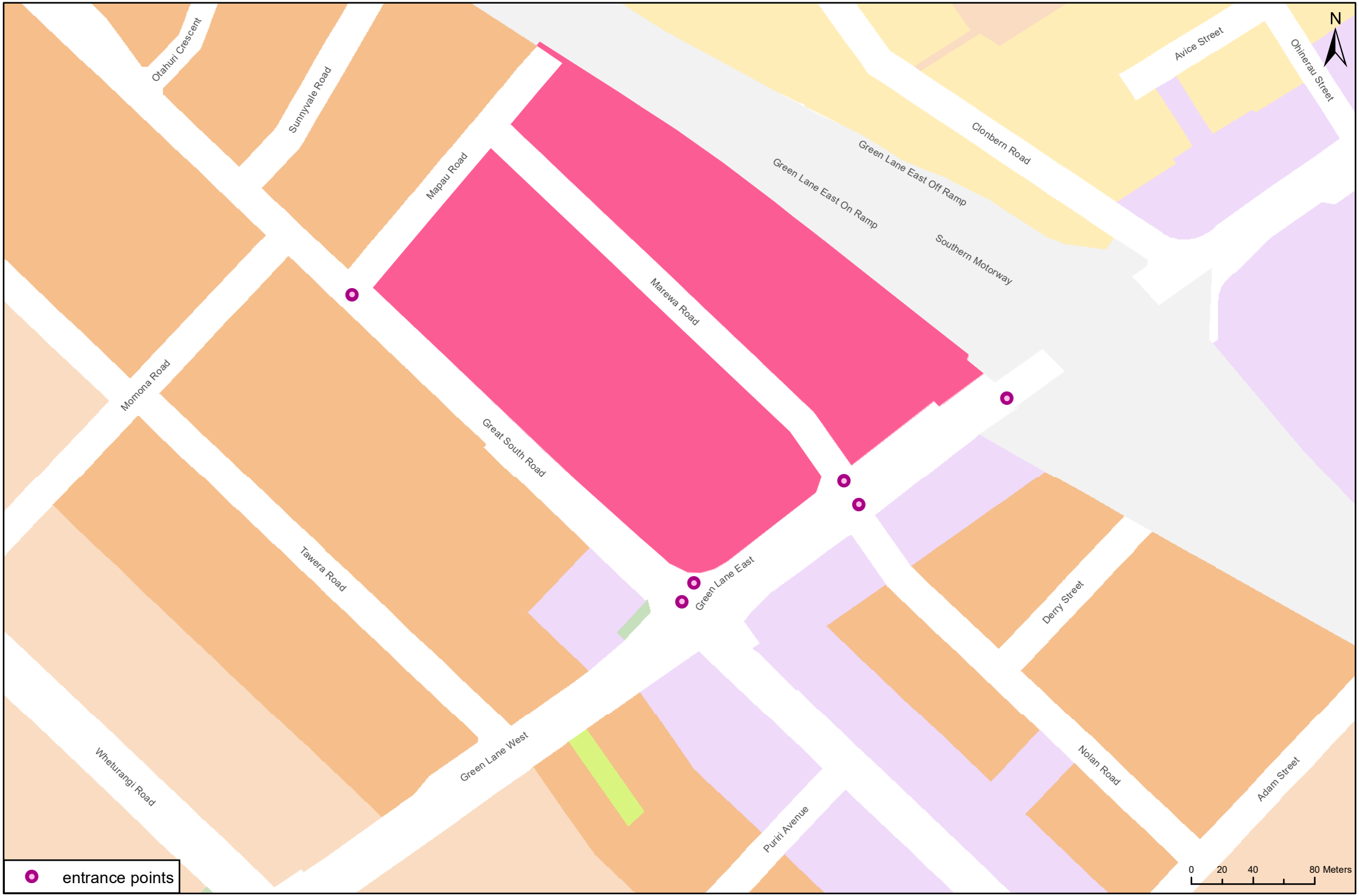

Auckland Council
Te Kaunihera o Tāmaki Makaurau
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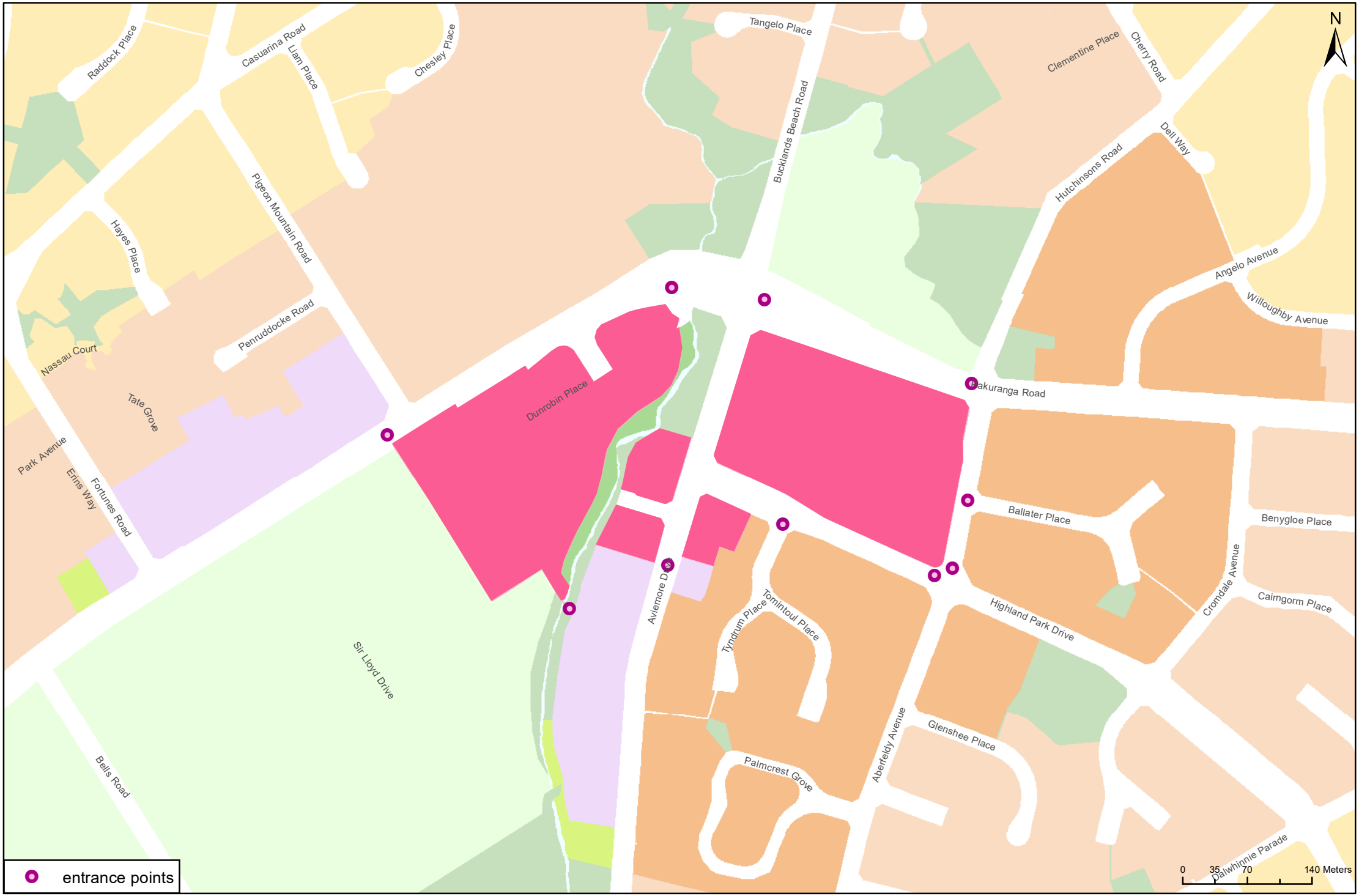
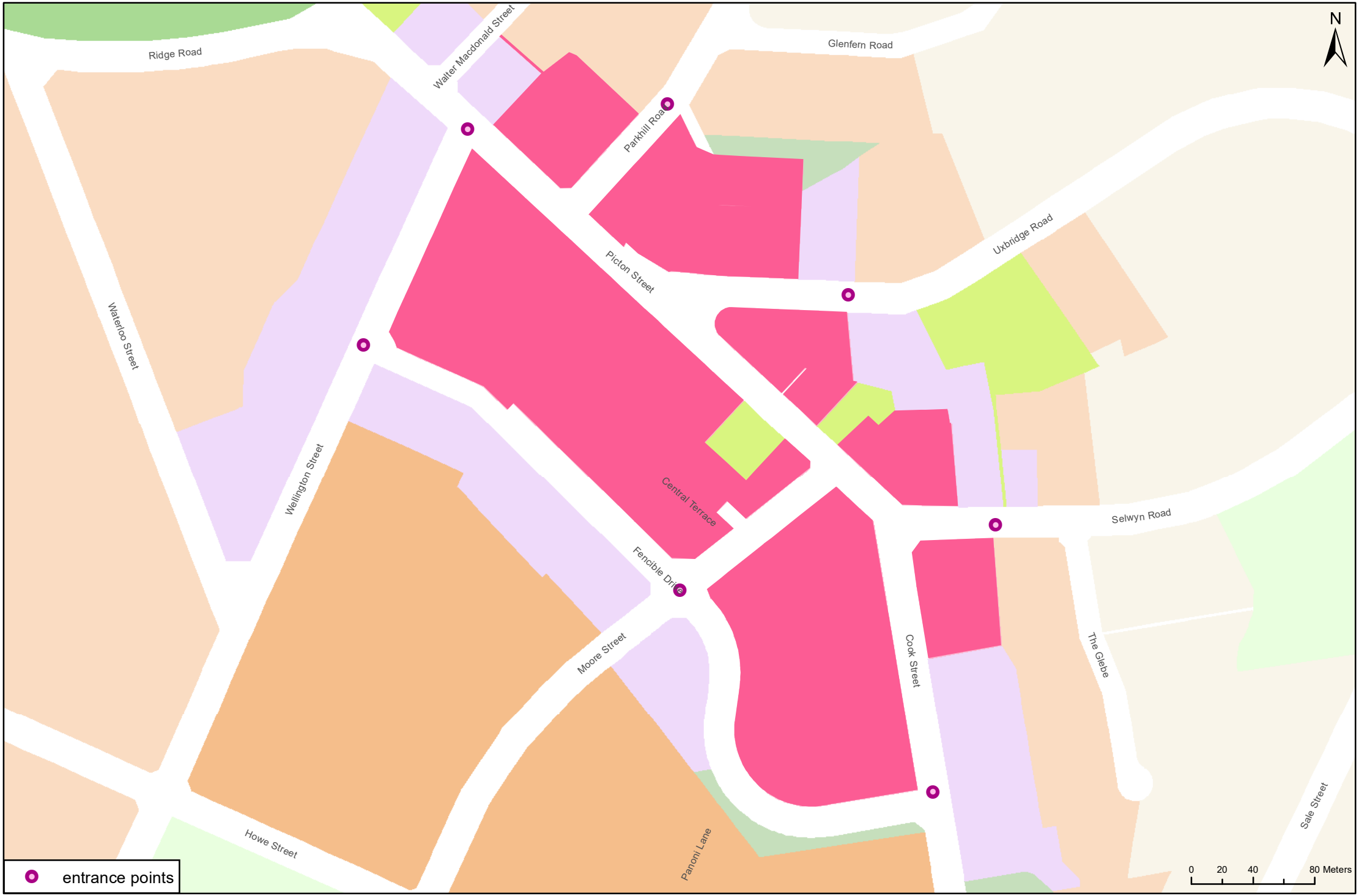

N
Raddock Place
Casuarina Road
Liam Place
Chesley Place
Tangelo Place
Bucklands Beach Road
Clementine Place
Cherry Road
Dell Way
Hutchinsons Road
Angelo Avenue
Willoughby Avenue
Pigeon Mountain Road
Hayes Place
Penruddocke Road
Nassau Court
Tate Grove
Park Avenue
Erins Way
Fortunes Road
Dunrobin Place
Sir Lloyd Drive
Bells Road
Aviemore Drive
Tyndrum Place
Tomintoul Place
Highland Park Drive
Ballater Place
Benygloe Place
Cromdale Avenue
Cairngorm Place
Aberfeldy Avenue
Glenshee Place
Palmcrest Grove
Dalwhinnie Parade
entrance points
0 35 70 140 Meters



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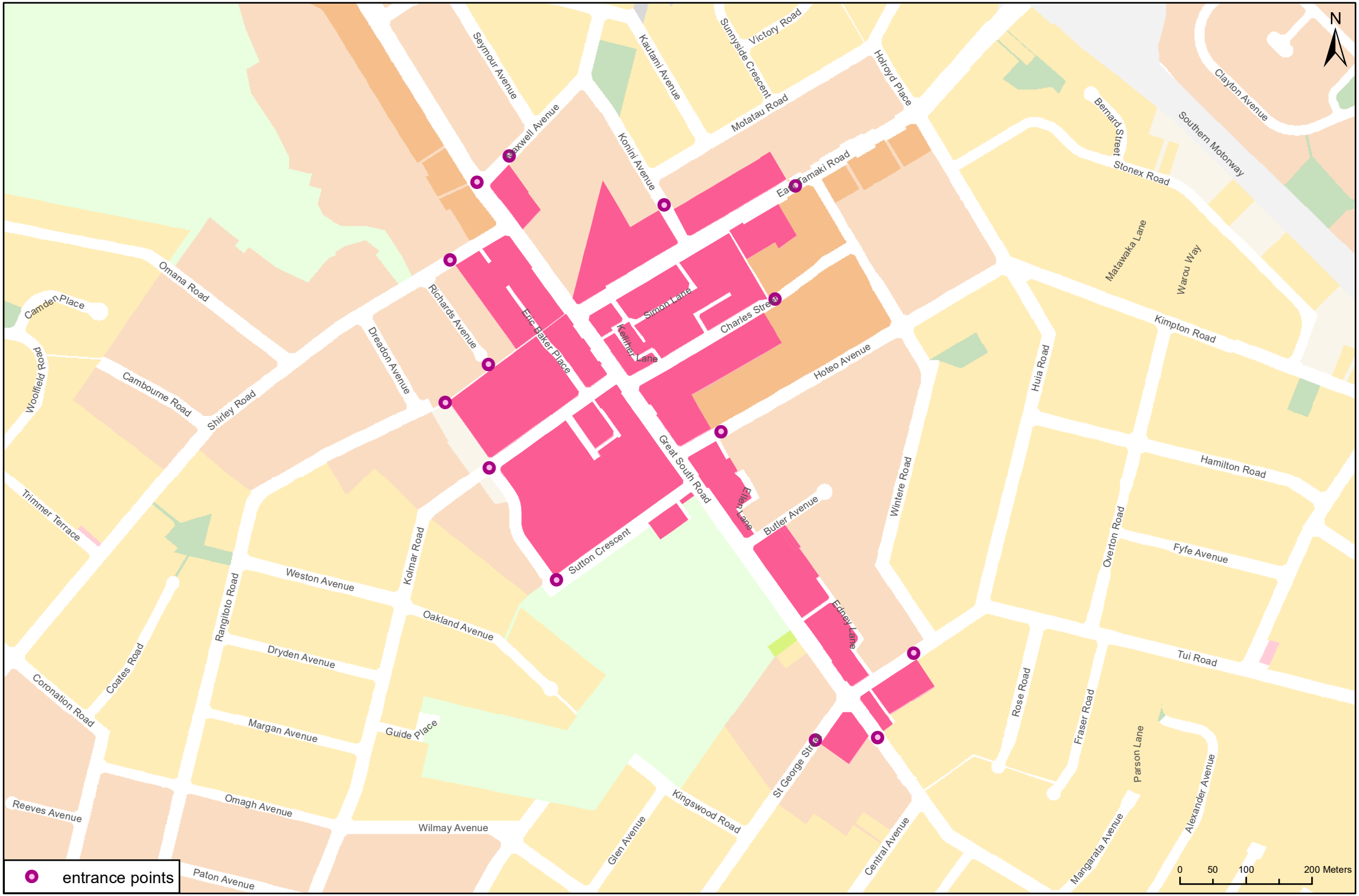
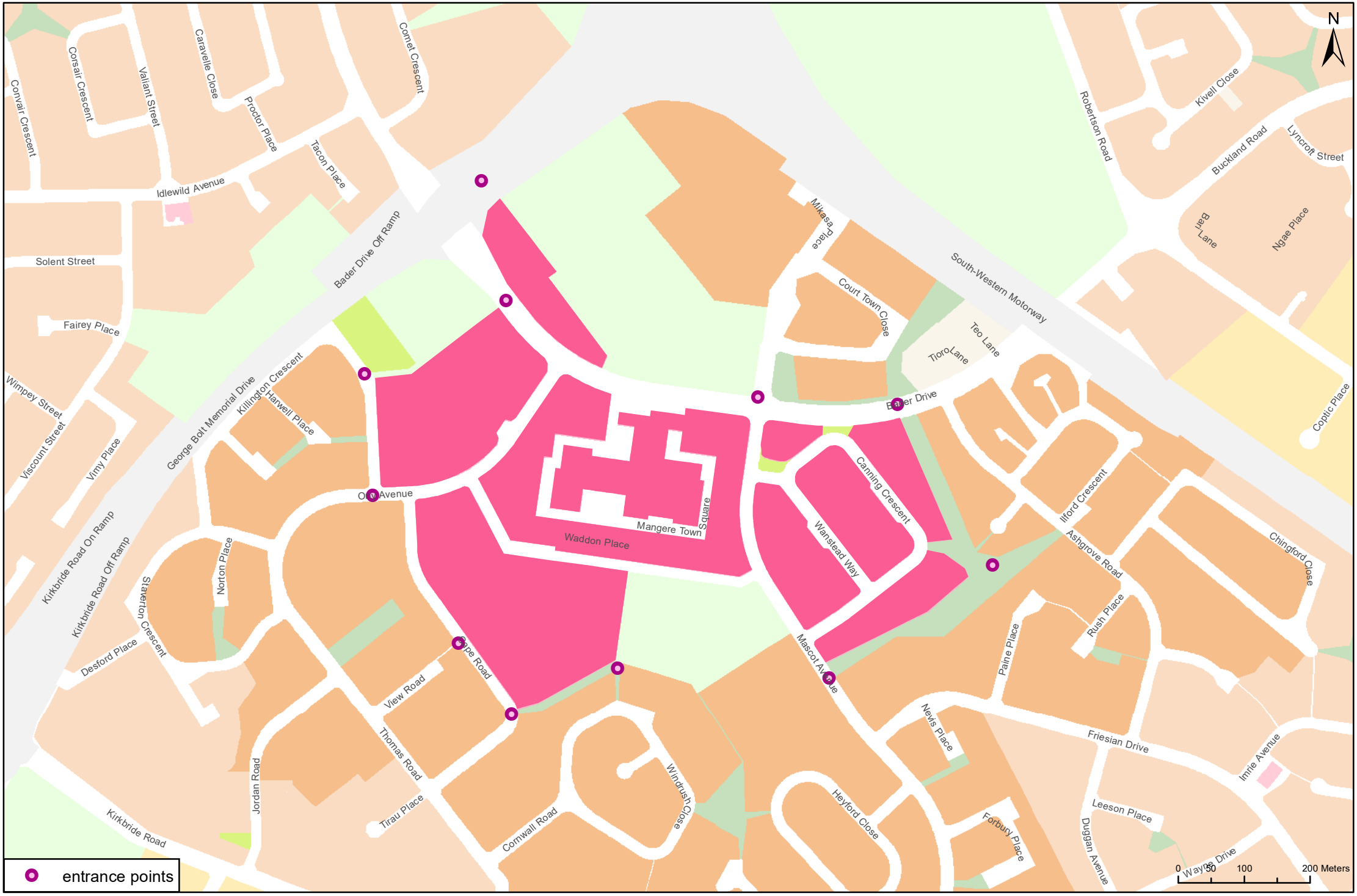

N
Maxwell Avenue
Seymour Avenue
Kautami Avenue
Sunnyside Crescent
Victory Road
Holroyd Place
Motatau Road
Konini Avenue
East Tamaki Road
Bernard Street
Stonex Road
Southern Motorway
Clayton Avenue
Matawaka Lane
Warou Way
Kimpton Road
Huia Road
Hoteo Avenue
Charles Street
Simon Lane
Kellitner Lane
Eric Baker Place
Richards Avenue
Dreadon Avenue
Omana Road
Camden Place
Woolfield Road
Cambourne Road
Shirley Road
Great South Road
Ethel Lane
Butler Avenue
Wintere Road
Hamilton Road
Overton Road
Fyfe Avenue
Tui Road
Rose Road
Fraser Road
Parson Lane
Alexander Avenue
Mangarata Avenue
Central Avenue
Edney Lane
St George Street
Sutton Crescent
Kolmar Road
Trimmer Terrace
Weston Avenue
Oakland Avenue
Rangitoto Road
Dryden Avenue
Coates Road
Coronation Road
Margan Avenue
Guide Place
Reeves Avenue
Omagh Avenue
Wilmay Avenue
Paton Avenue
Glen Avenue
Kingswood Road
entrance points
0 50 100 200 Meters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entrance points
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Convair Crescent
Valiant Street
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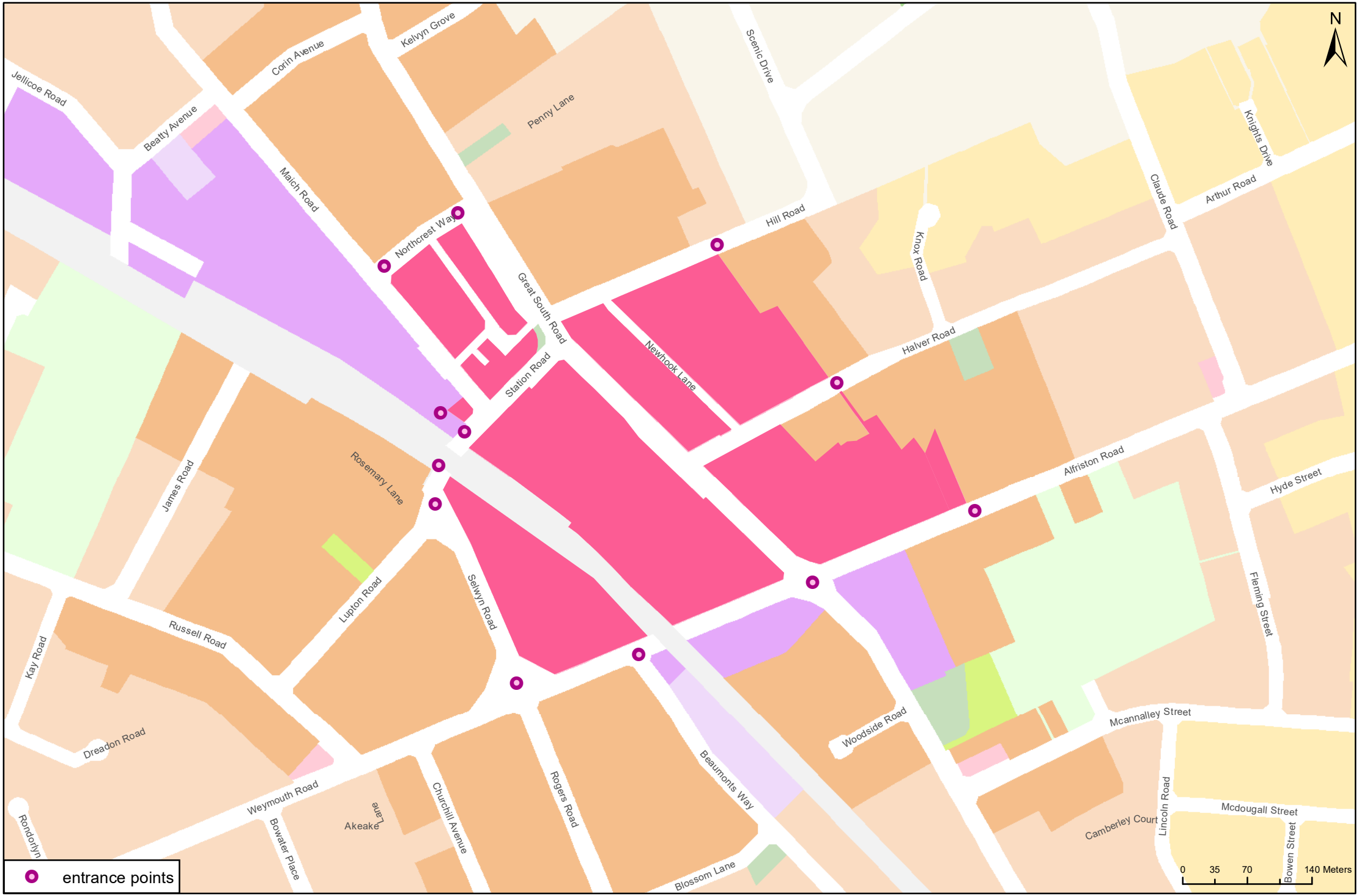
Proctor Place
Comet Crescent
Tacon Place
Idlewild Avenue
Solent Street
Fairey Place
Wimpey Street
Viscount Street
Vimy Place
Kirkbride Road On Ramp
Kirkbride Road Off Ramp
Bader Drive Off Ramp
George Bolt Memorial Drive
Killington Crescent
Harwell Place
Mikaera Place
South-Western Motorway
Court Town Close
Teo Lane
Tioro Lane
Bader Drive
Robertson Road
Kivell Close
Buckland Road
Lyncroft Street
Barr Lane
Ngae Place
Coptic Place
Canning Crescent
Ilford Crescent
Ashgrove Road
Chingford Close
Rush Place
Paine Place
Mascot Avenue
Newis Place
Friesian Drive
Imrie Avenue
Leeson Place
Duggan Avenue
Wayne Drive
Forbury Place
Heyford Close
Windrush Close
Cornwall Road
Tirau Place
Thomas Road
Jordan Road
Kirkbride Road
Desford Place
Staverton Crescent
Norton Place
Oira Avenue
Mangere Town Square
Waddon Place
Wantstead Way
Pipe Road
View Road



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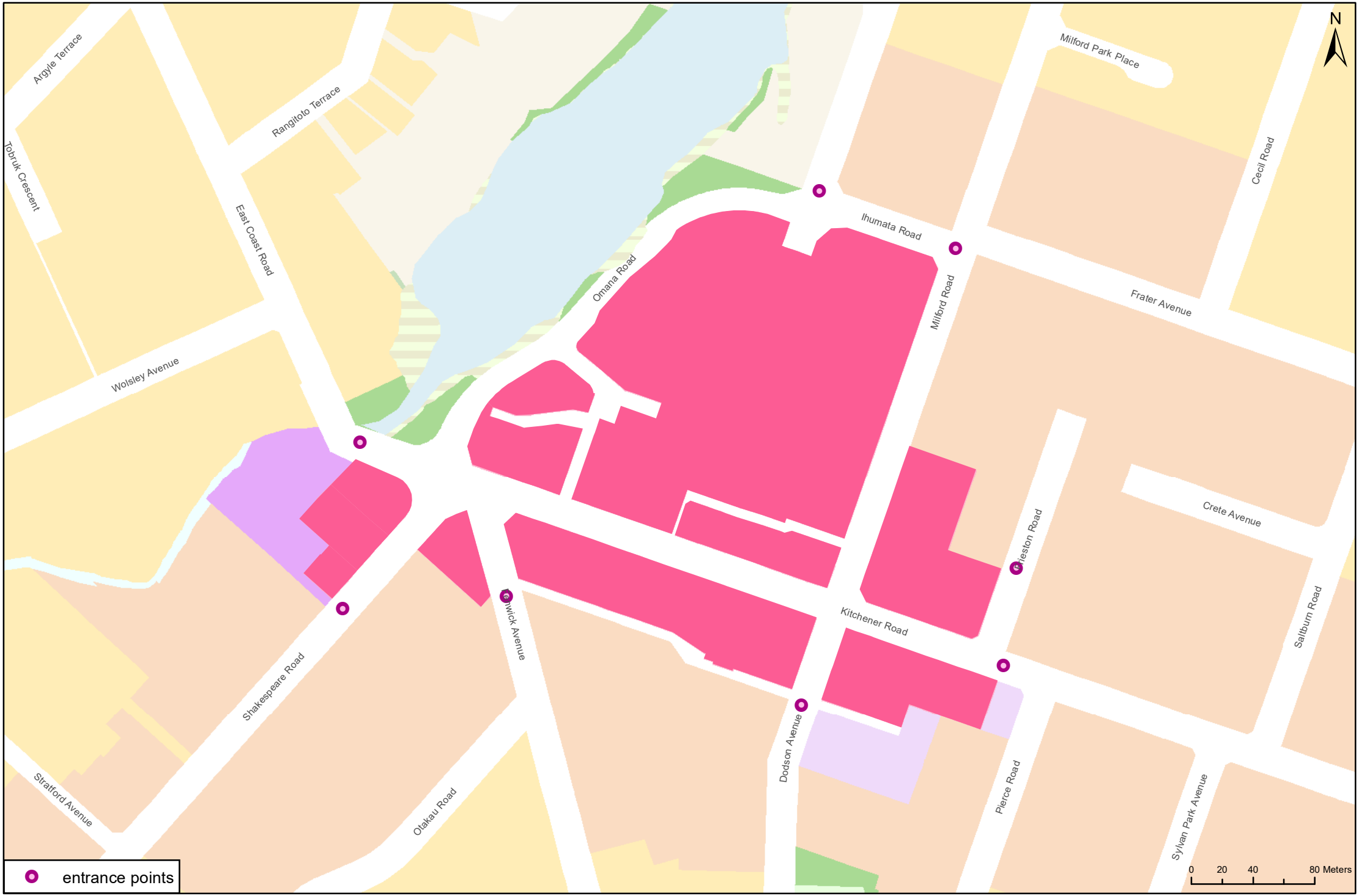

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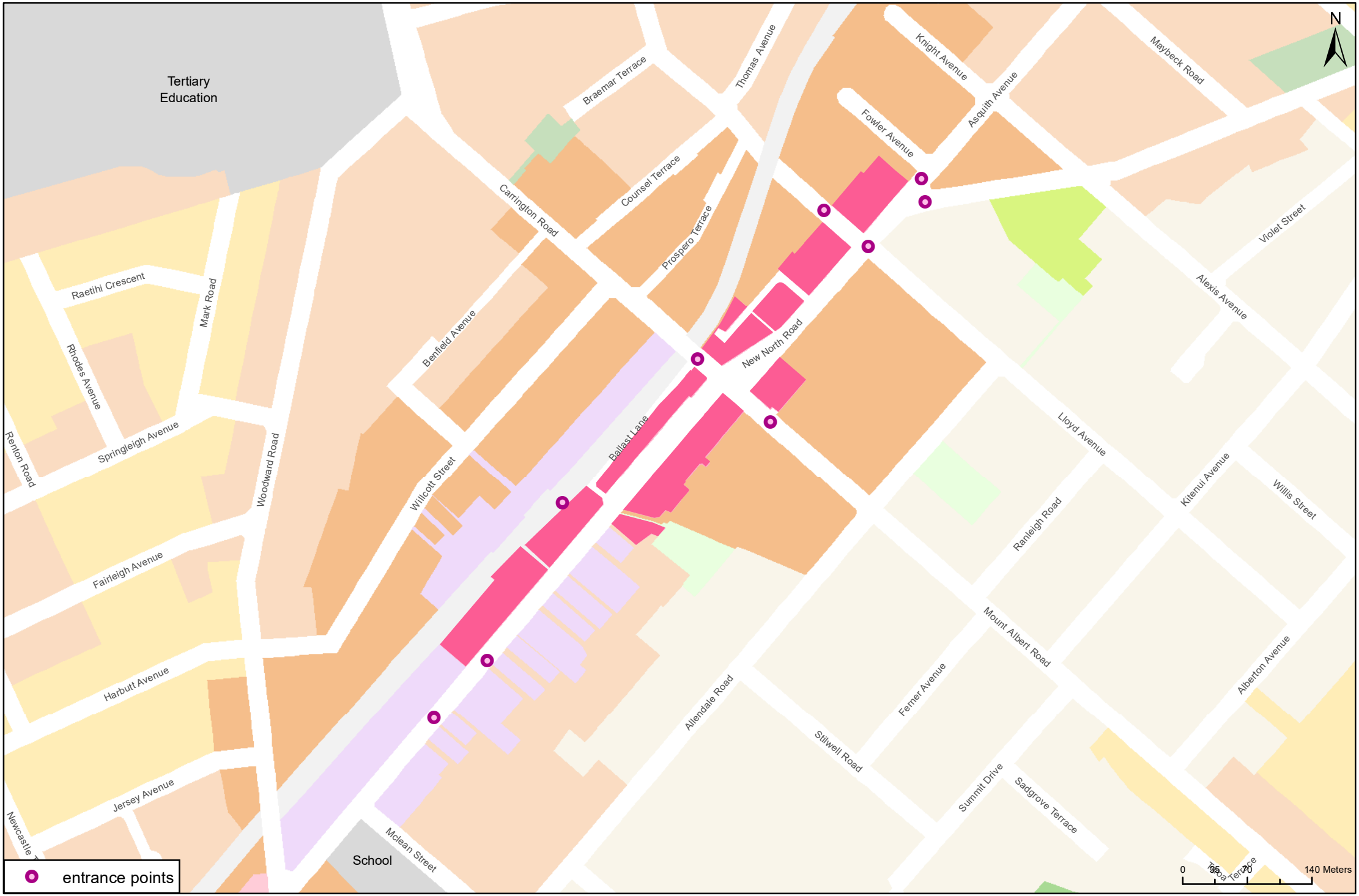

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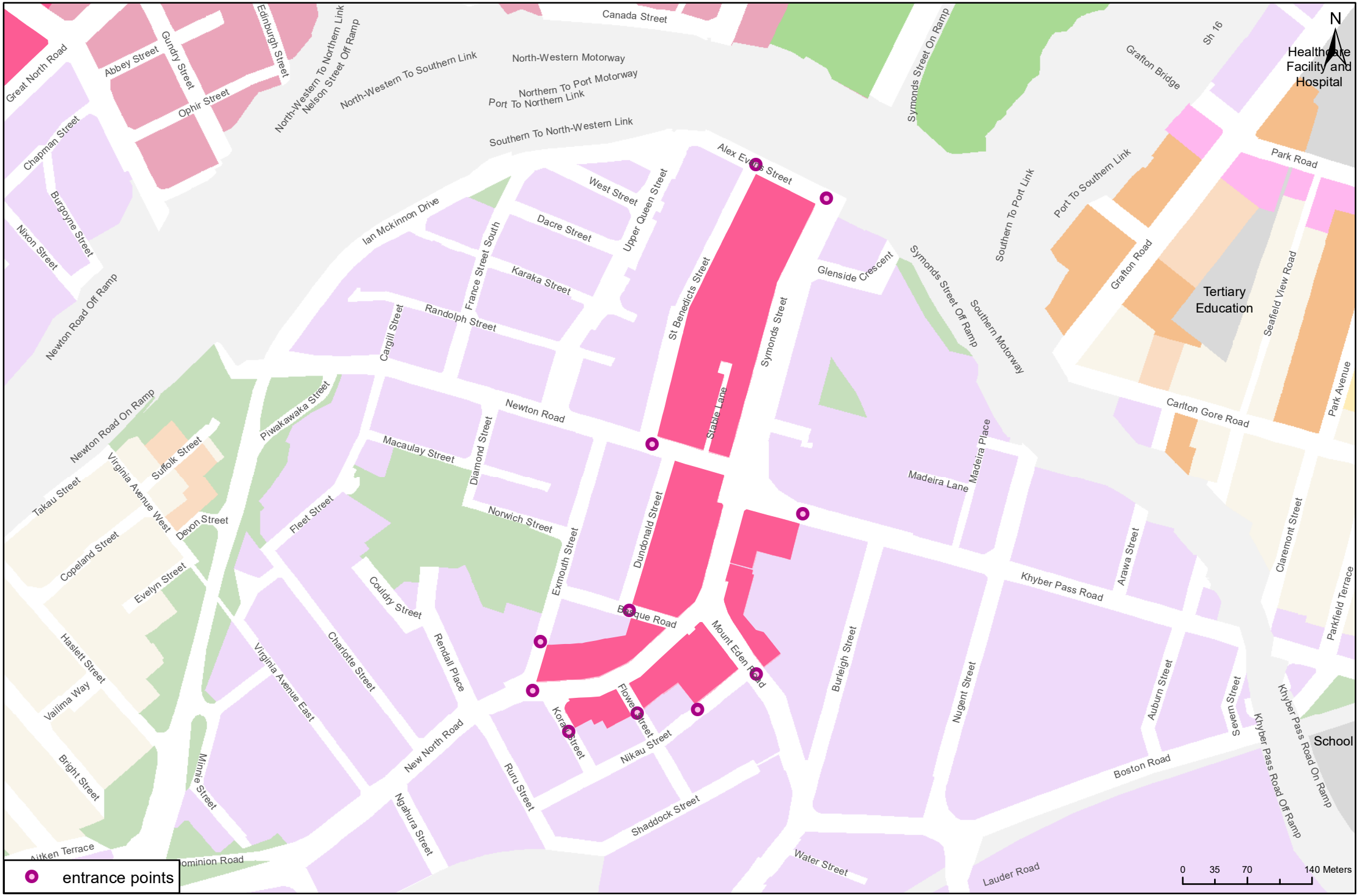

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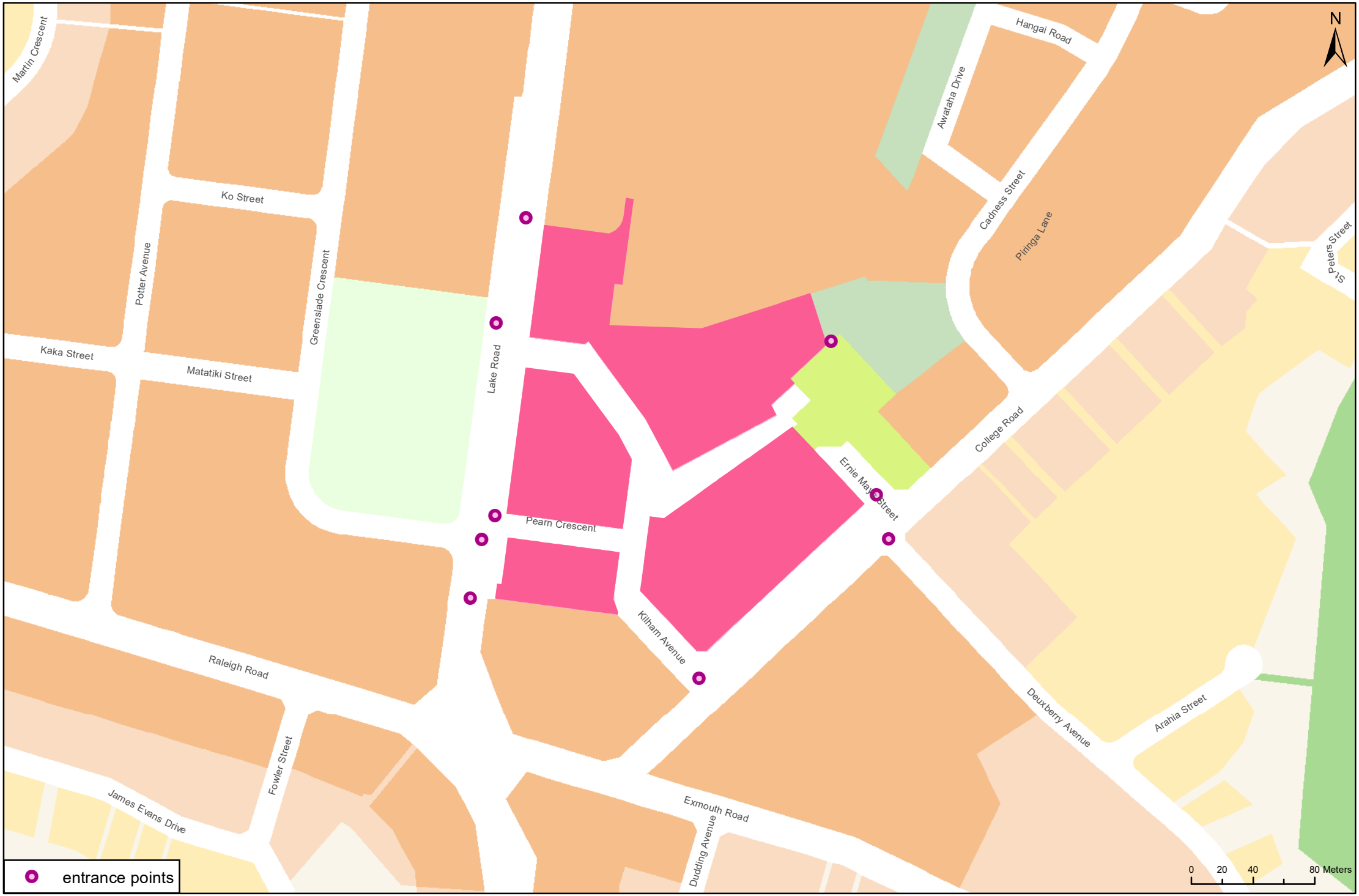

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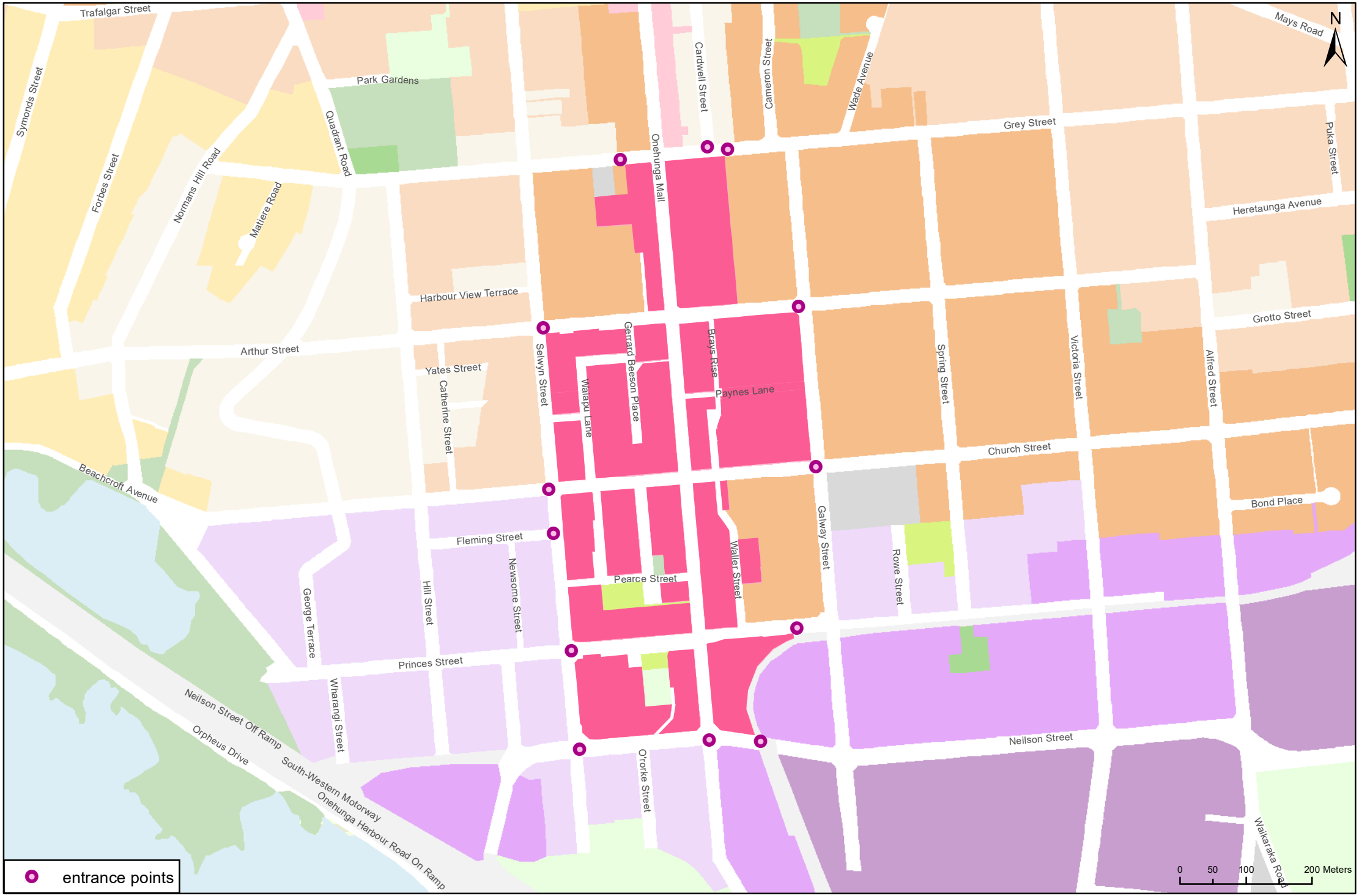

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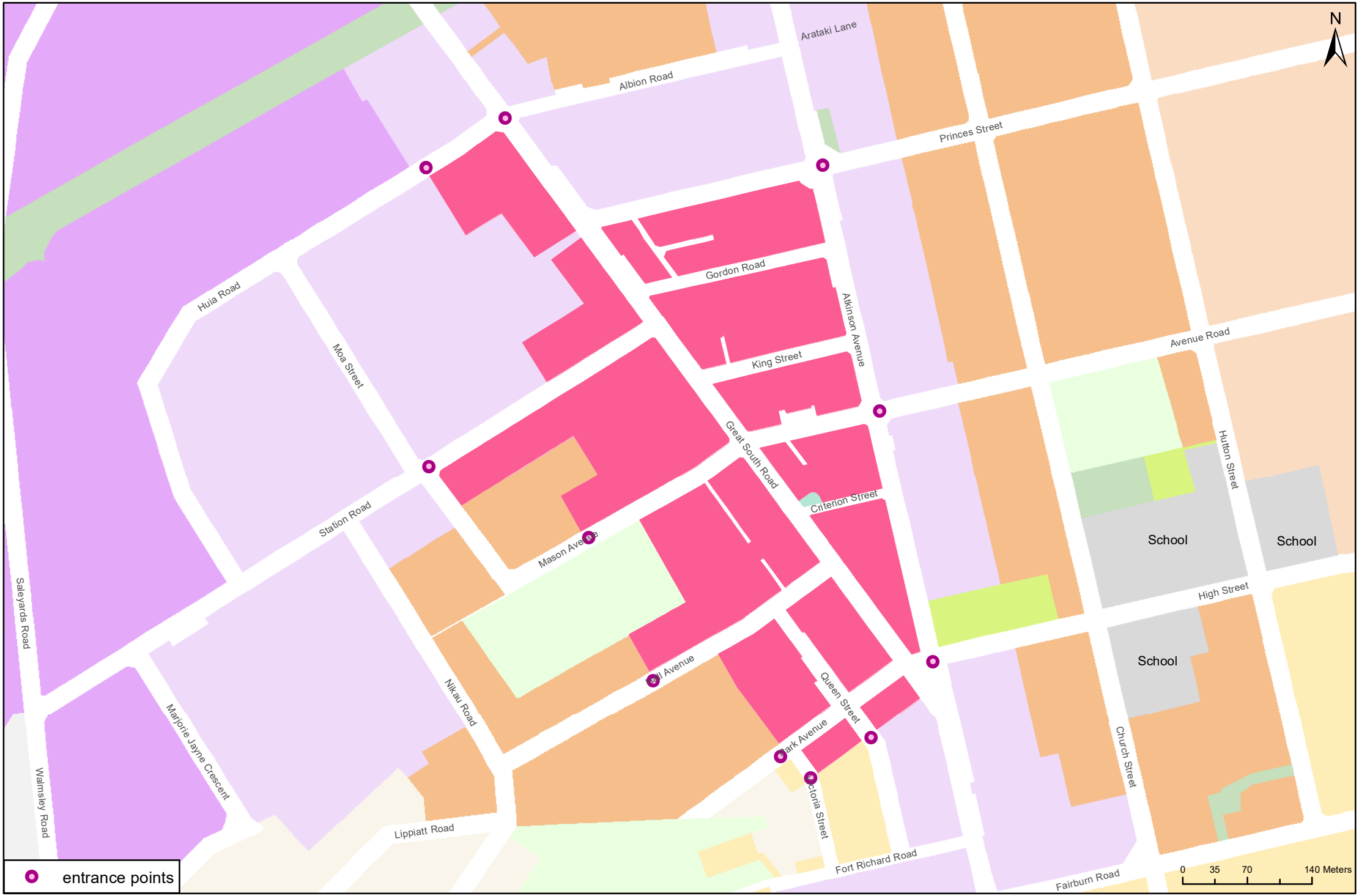
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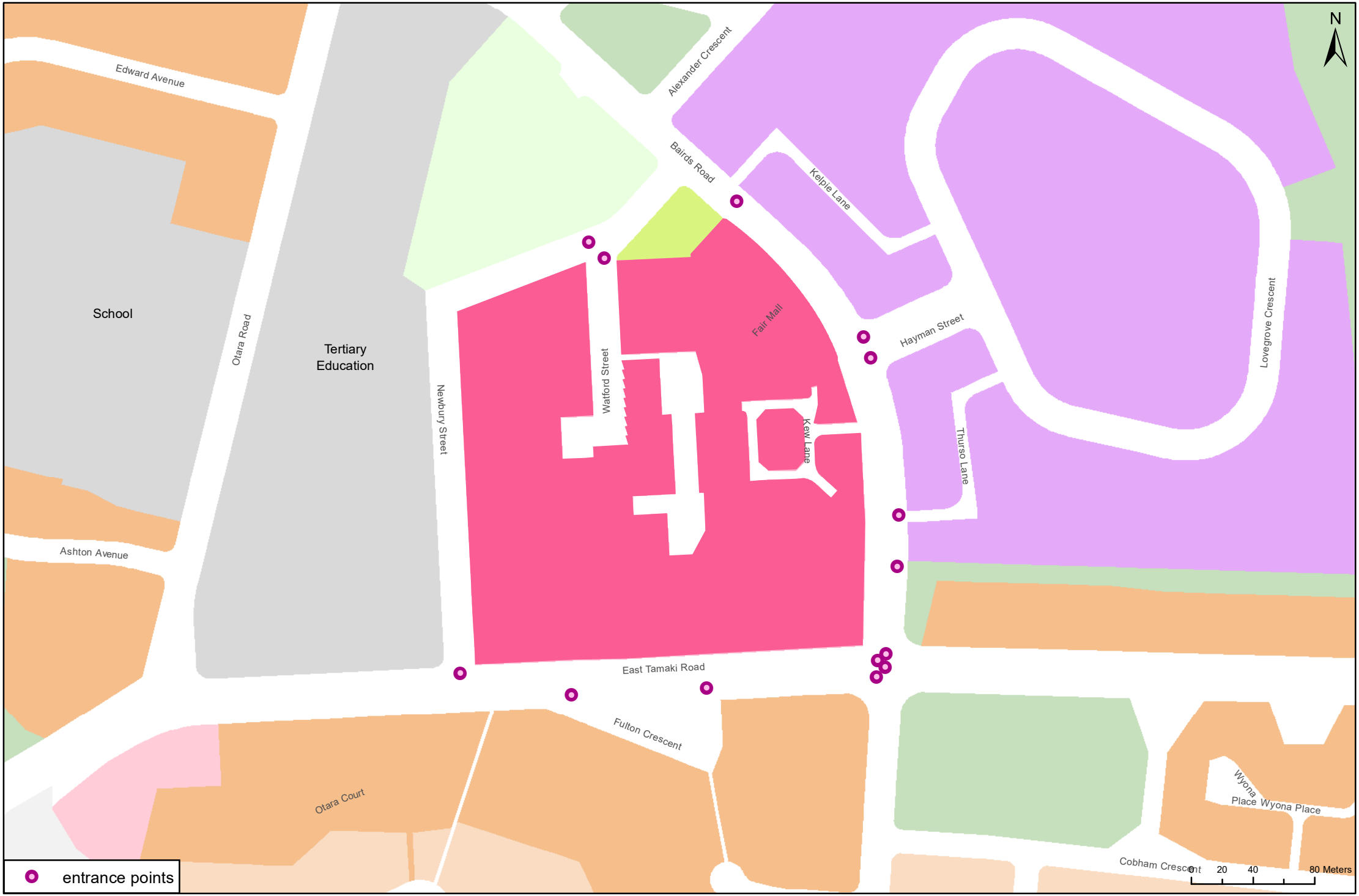
Princes Street
Gordon Road
Huia Road
Moa Street
Atkinson Avenue
King Street
Avenue Road
Great South Road
Criterion Street
Hutton Street
School
School
Station Road
Mason Avenue
High Street
Saleyards Road
School
Nikau Road
Queen Street
Church Street
Marjorie Jayne Crescent
Walmsley Road
Lippiatt Road
Victoria Street
Fort Richard Road
Fairburn Road
entrance points
0 35 70 140 Meters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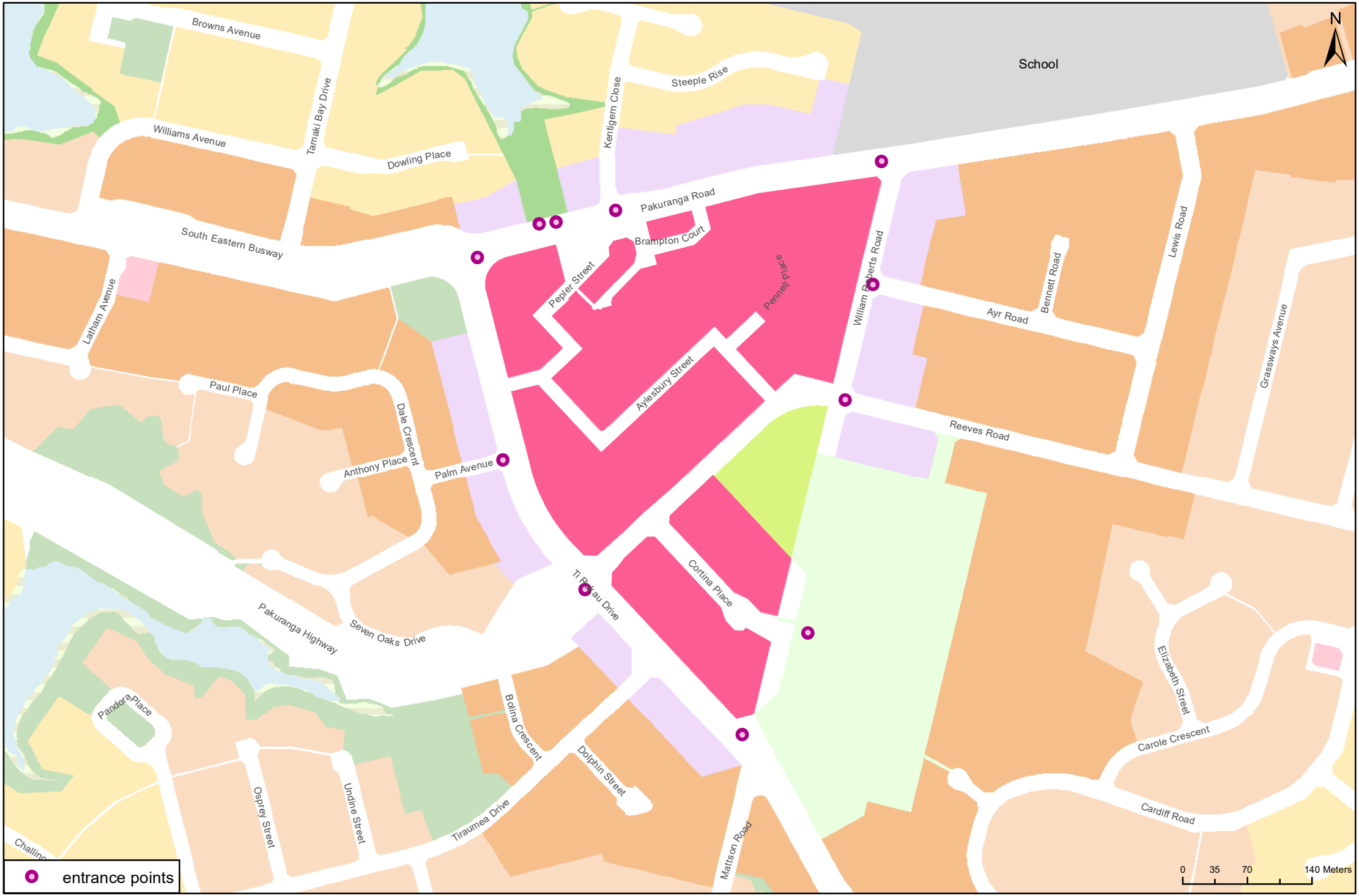
Edward Avenue
Alexander Crescent
Bairds Road
Kelpie Lane
School
Otara Road
Tertiary Education
Newbury Street
Watford Street
Fair Mall
Hayman Street
Lovegrove Crescent
Kew Lane
Thurso Lane
Ashton Avenue
East Tamaki Road
Fulton Crescent
Otara Court
Wyona Place
Wyona Place
Cobham Crescent
entrance points
0 20 40 80 Meters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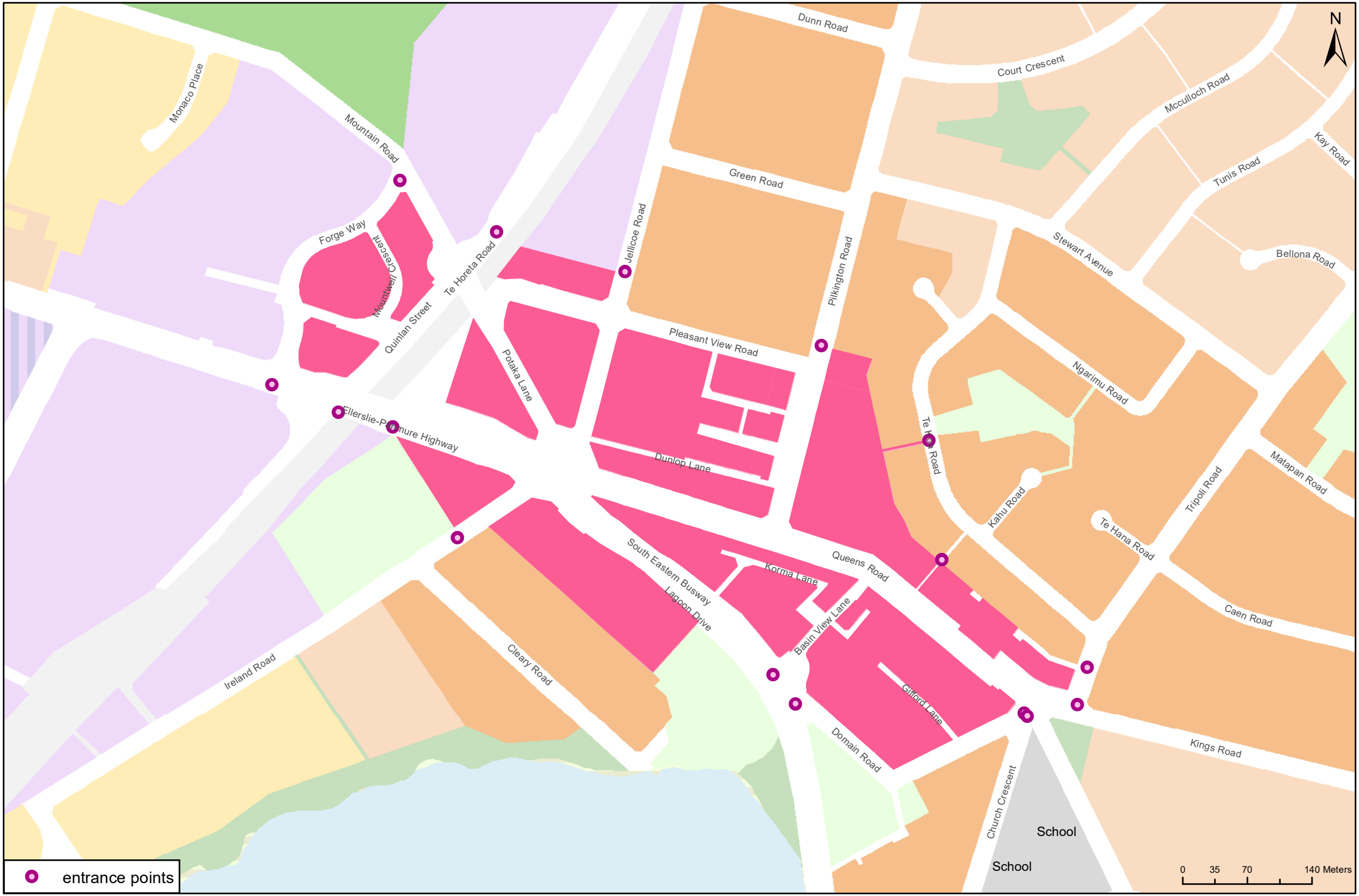
School
Browns Avenue
Tamaki Bay Drive
Williams Avenue
Dowling Place
Kentigern Close
Steeple Rise
Pakuranga Road
South Eastern Busway
Brampton Court
Pepler Street
Pennell Place
William Roberts Road
Lewis Road
Bennett Road
Ayr Road
Grassways Avenue
Latham Avenue
Paul Place
Dale Crescent
Anthony Place
Palm Avenue
Aylesbury Street
Reeves Road
Ti Rakau Drive
Cortina Place
Pakuranga Highway
Seven Oaks Drive
Elizabeth Street
Carole Crescent
Cardiff Road
Pandora Place
Bolina Crescent
Dolphin Street
Osprey Street
Undine Street
Tiraumea Drive
Mattson Road
entrance points
0 35 70 140 Meters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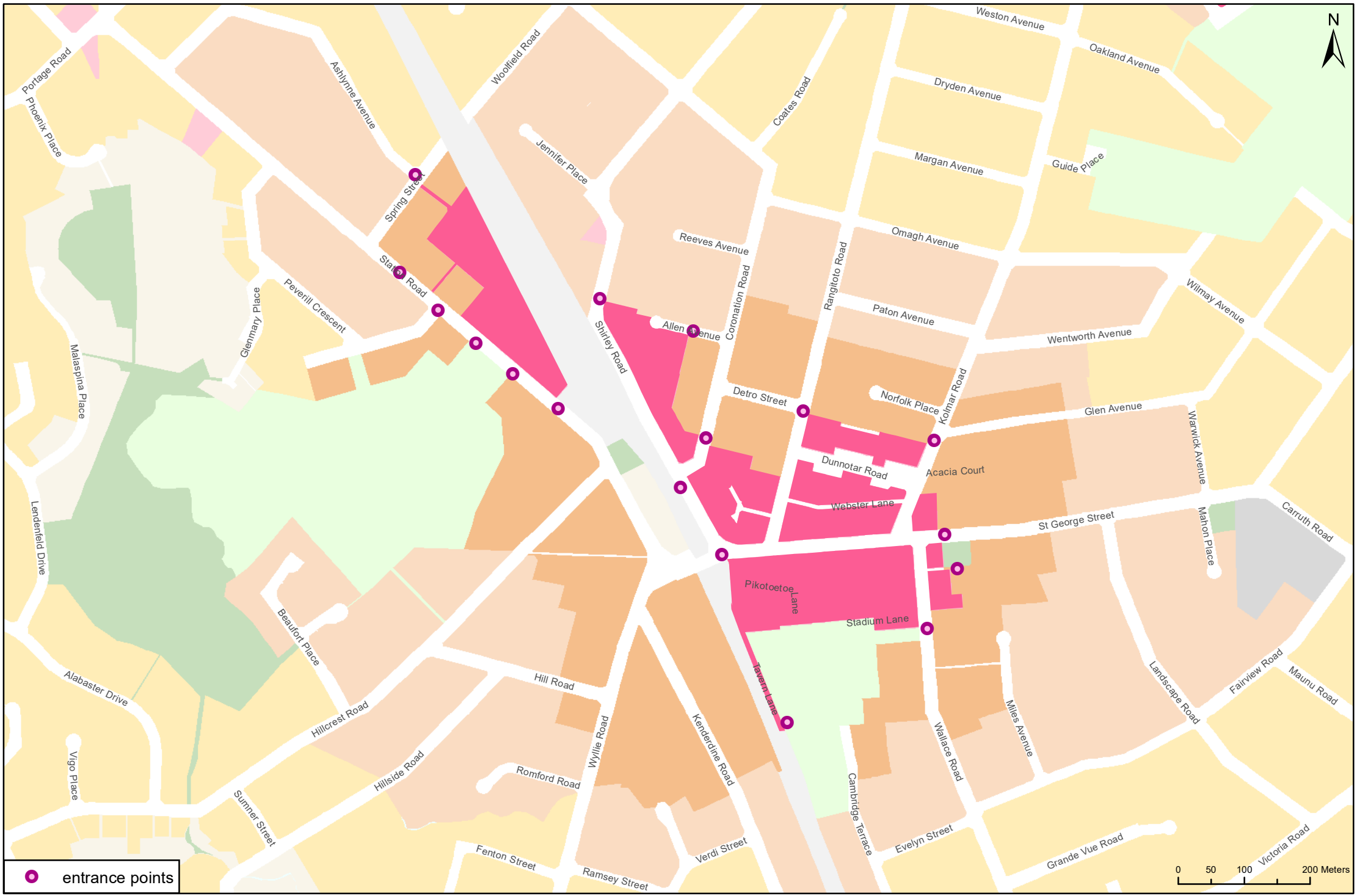
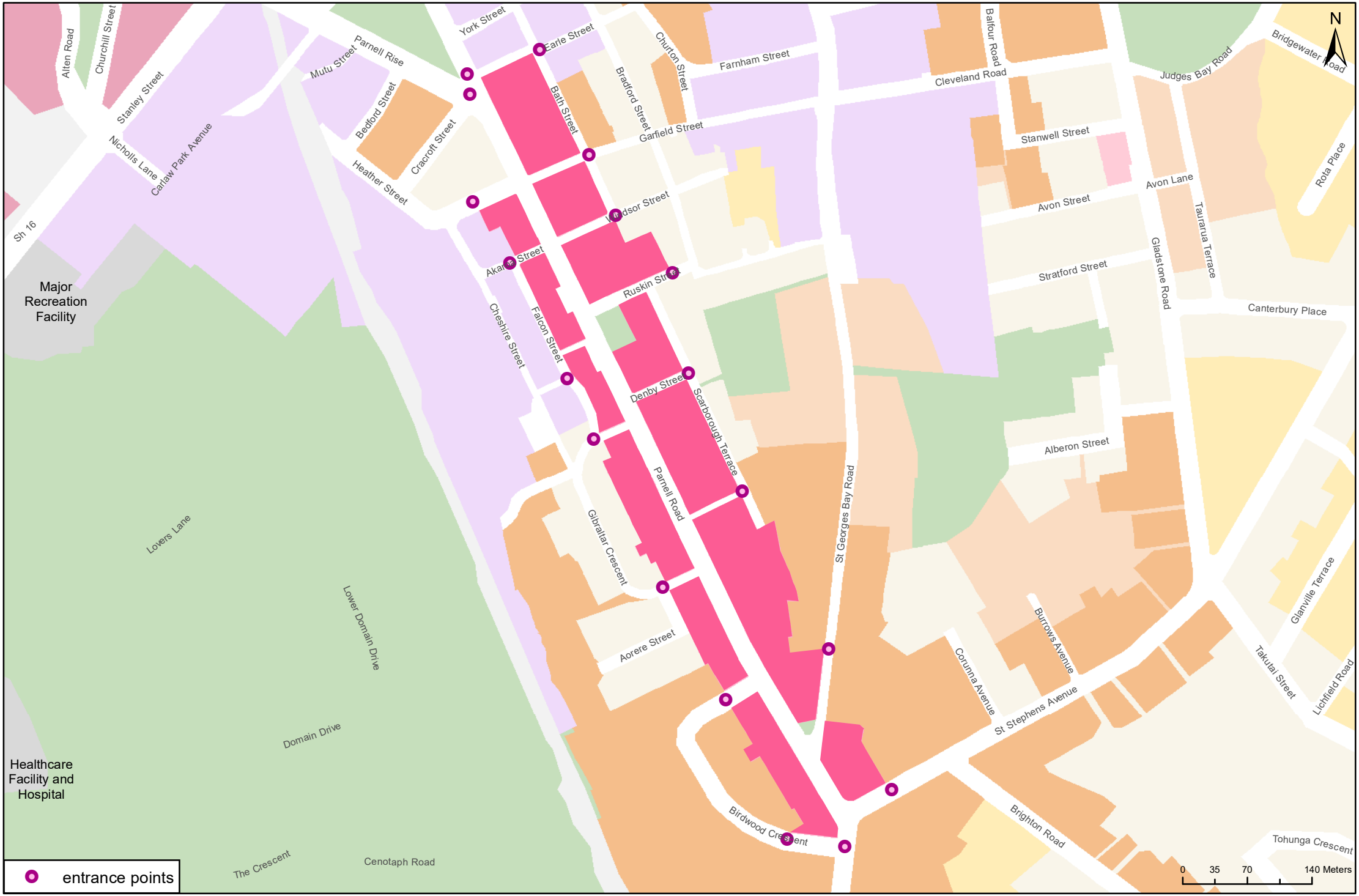
Kay Road
Tunis Road
Bellona Road
Stewart Avenue
Monaco Place
Mountain Road
Green Road
Jellicoe Road
Pilkington Road
Forge Way
Mountwell Crescent
Te Horeta Road
Quinlan Street
Pleasant View Road
Potaka Lane
Ngarimu Road
Ellerslie-Panmure Highway
Dunlop Lane
Te Kura Road
Kahu Road
Tripoli Road
Matapan Road
Te Hana Road
South Eastern Busway
Korma Lane
Queens Road
Lagoon Drive
Basin View Lane
Caen Road
Ireland Road
Cleary Road
Gifford Lane
Domain Road
Kings Road
Church Crescent
School
School
entrance points
0 35 70 140 Meters


N
Weston Avenue
Oakland Avenue
Dryden Avenue
Margan Avenue
Guide Place
Omagh Avenue
Wilmay Avenue
Wentworth Avenue
Paton Avenue
Portage Road
Phoenix Place
Ashlynne Avenue
Woolfield Road
Coates Road
Jennifer Place
Spring Street
Station Road
Reeves Avenue
Allen Avenue
Coronation Road
Rangitoto Road
Shirley Road
Peverill Crescent
Glenmary Place
Malaspina Place
Detro Street
Norfolk Place
Kolmar Road
Glen Avenue
Warwick Avenue
Dunnotar Road
Acacia Court
Webster Lane
St George Street
Mahon Place
Carruth Road
Pikotoetoe Lane
Stadium Lane
Tavern Lane
Lendenfeld Drive
Beaufort Place
Alabaster Drive
Hill Road
Hillcrest Road
Hillside Road
Romford Road
Wyllie Road
Kenderdine Road
Cambridge Terrace
Wallace Road
Miles Avenue
Landscape Road
Fairview Road
Maunu Road
Vigo Place
Summer Street
Fenton Street
Ramsey Street
Verdi Street
Evelyn Street
Grande Vue Road
Victoria Road
entrance points
0 50 100 200 Meters



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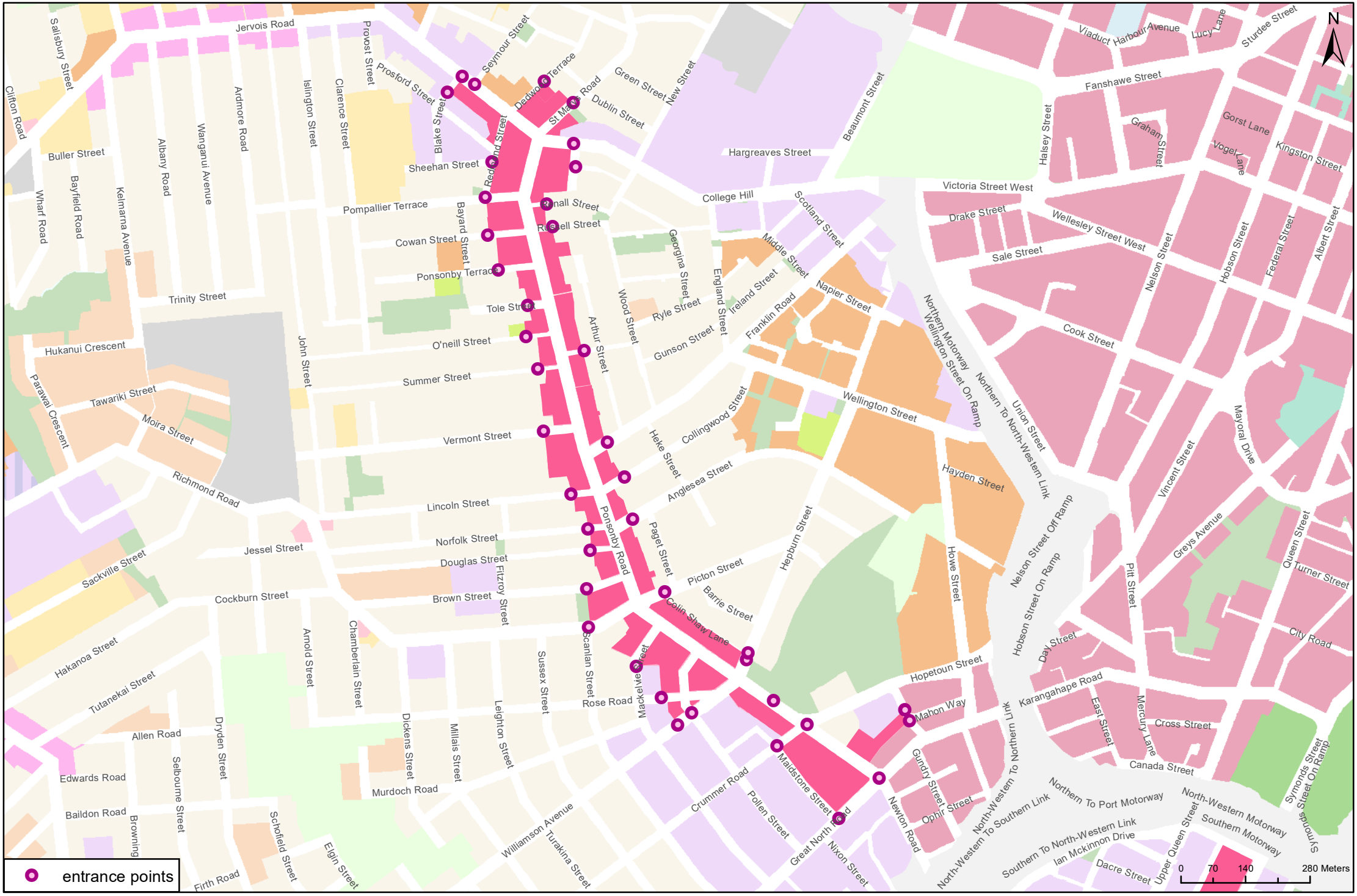
N
entrance points
0 70 140 280 Meters
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Salisbury Street
Clifton Road
Buller Street
Wharf Road
Bayfield Road
Albany Road
Kelmarna Avenue
Wanganui Avenue
Ardmore Road
Islington Street
Clarence Street
Provost Street
Prosford Street
Blake Street
Seymour Street
Dedwood Terrace
St Marys Road
Dublin Street
Green Street
New Street
Sheehan Street
Redmond Street
Pompallier Terrace
Bayard Street
Cowan Street
Ponsonby Terrace
Trinity Street
Hukanui Crescent
Parawai Crescent
Tawariki Street
Moira Street
Richmond Road
John Street
Tole Street
O'neill Street
Summer Street
Vermont Street
Lincoln Street
Norfolk Street
Douglas Street
Brown Street
Jessel Street
Sackville Street
Cockburn Street
Hakanoa Street
Tutanekai Street
Allen Road
Edwards Road
Baildon Road
Dryden Street
Selbourne Street
Browning Street
Schofield Street
Elgin Street
Firth Road
Arnold Street
Chamberlain Street
Dickens Street
Millais Street
Leighton Street
Sussex Street
Murdoch Road
Williamson Avenue
Turakina Street
Arthur Street
Wood Street
Georgina Street
Ryle Street
Gunson Street
England Street
Ireland Street
Middle Street
Scotland Street
College Hill
Hargreaves Street
Beaumont Street
Russell Street
Ponsonby Road
Scanlan Street
Rose Road
Mackelvie Street
Colin Shaw Lane
Paget Street
Heke Street
Collingwood Street
Anglesea Street
Fitzroy Street
Picton Street
Barrie Street
Hepburn Street
Howe Street
Franklin Road
Napier Street
Wellington Street
Hayden Street
Northern Motorway Wellington Street On Ramp
Northern To North-Western Link
Nelson Street Off Ramp
Hobson Street On Ramp
Union Street
Hopetoun Street
Mahon Way
Maidstone Street
Crummer Road
Great North Road
Pollen Street
Newton Road
Gundry Street
Ophir Street
Nixon Street
North-Western To Northern Link
North-Western To Southern Link
Southern To North-Western Link
Ian Mckinnon Drive
Northern To Port Motorway
North-Western Motorway
Southern Motorway
Symonds Street On Ramp
Upper Queen Street
Dacre Street
Karangahape Road
East Street
Mercury Lane
Cross Street
Canada Street
Day Street
Pitt Street
Greys Avenue
Vincent Street
Mayoral Drive
Queen Street
Turner Street
City Road
Victoria Street West
Drake Street
Wellesley Street West
Sale Street
Cook Street
Nelson Street
Hobson Street
Federal Street
Albert Street
Fanshawe Street
Halsey Street
Graham Street
Gorst Lane
Vogel Lane
Kingston Street
Viaduct Harbour Avenue
Lucy Lane
Sturdee Street

N
Miller Street
Alberta Street
Point Chevalier Road
Tui Street
Huia Road
Kiwi Road
Walmer Road
Moa Road
Riro Street
Premier Avenue
Great North Road
Montrose Street
School
Parr Road North
Sh 20
North-Western Motorway
Novar Place
Carrington Road
Great North Road Off Ramp
Parr Road South
Sutherland Road
Healthcare Facility and Hospital
entrance points
0 20 40 80 Meters

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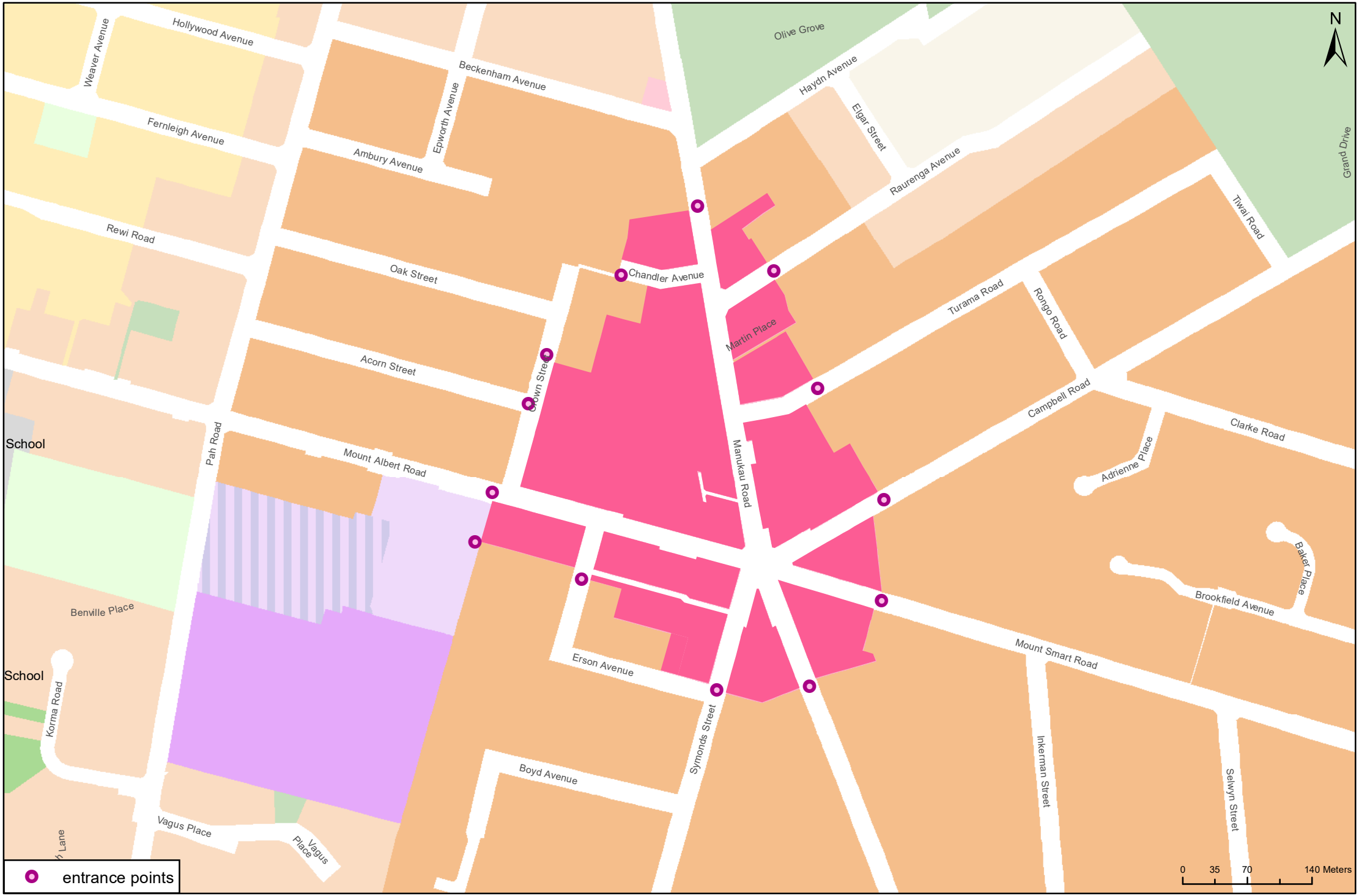

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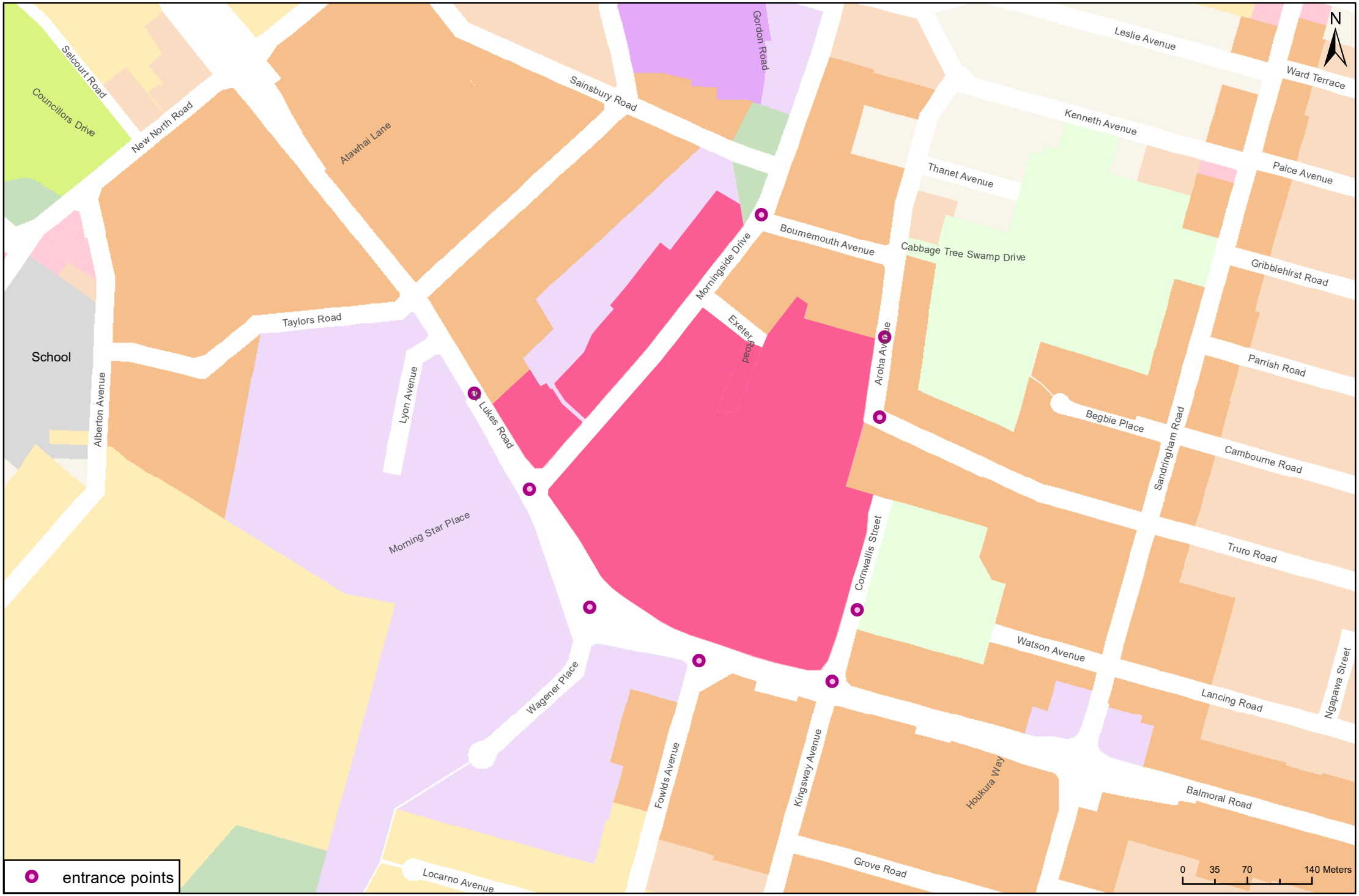
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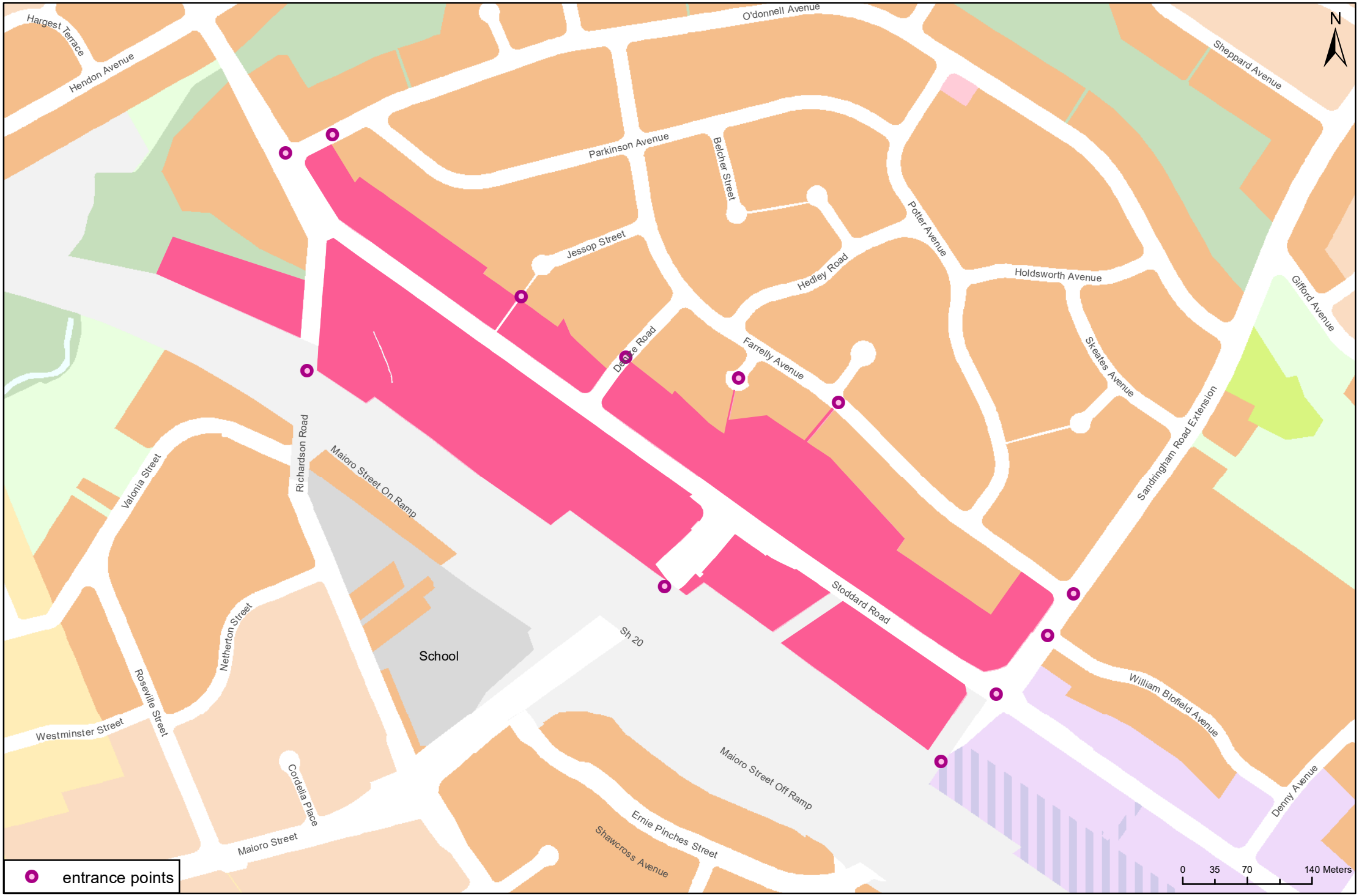
Selcourt Road
Councillors Drive
New North Road
Sainsbury Road
Gordon Road
Leslie Avenue
Ward Terrace
Kenneth Avenue
Paice Avenue
Thanet Avenue
Atawhai Lane
Bournemouth Avenue
Cabbage Tree Swamp Drive
Gribblehirst Road
Morningside Drive
Exeter Road
Aroha Avenue
Parrish Road
Taylors Road
School
Alberton Avenue
Lyon Avenue
St Lukes Road
Begbie Place
Sandringham Road
Cambourne Road
Morning Star Place
Cornwallis Street
Truro Road
Watson Avenue
Lancing Road
Ngapawa Street
Wagener Place
Fowlds Avenue
Kingsway Avenue
Houkura Way
Balmoral Road
Grove Road
Locarno Avenue
entrance points
0 35 70 140 Meters



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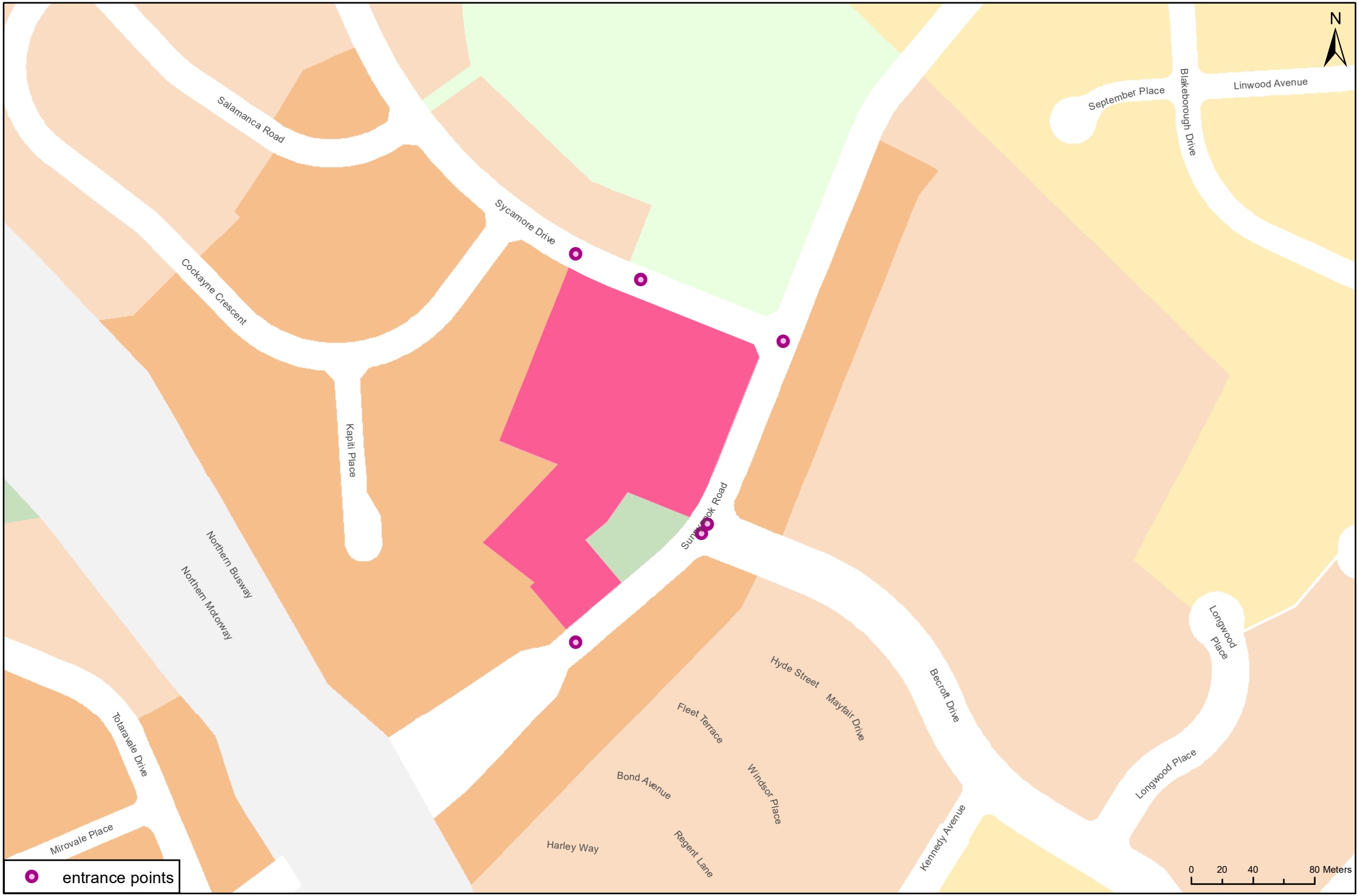

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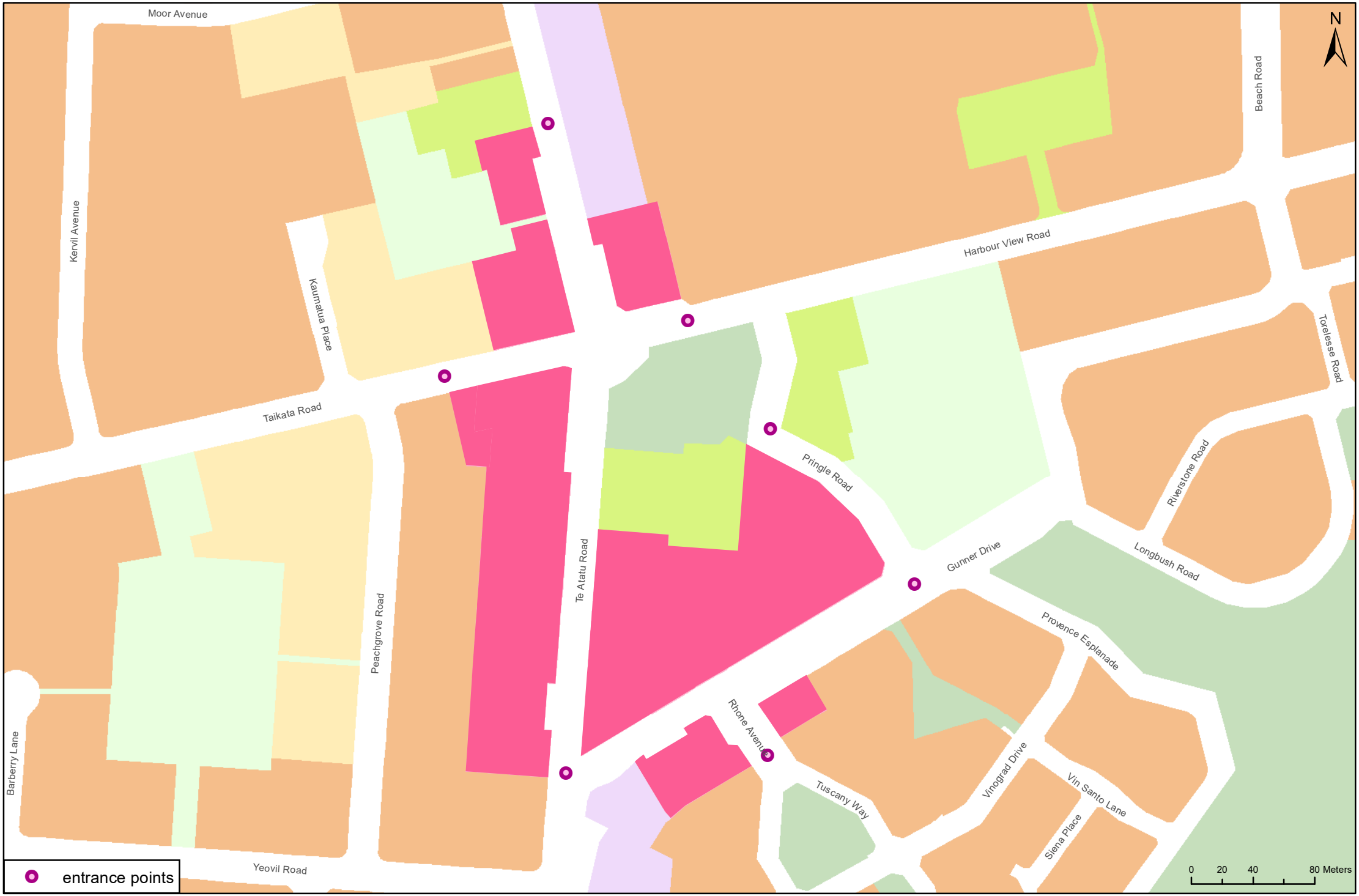
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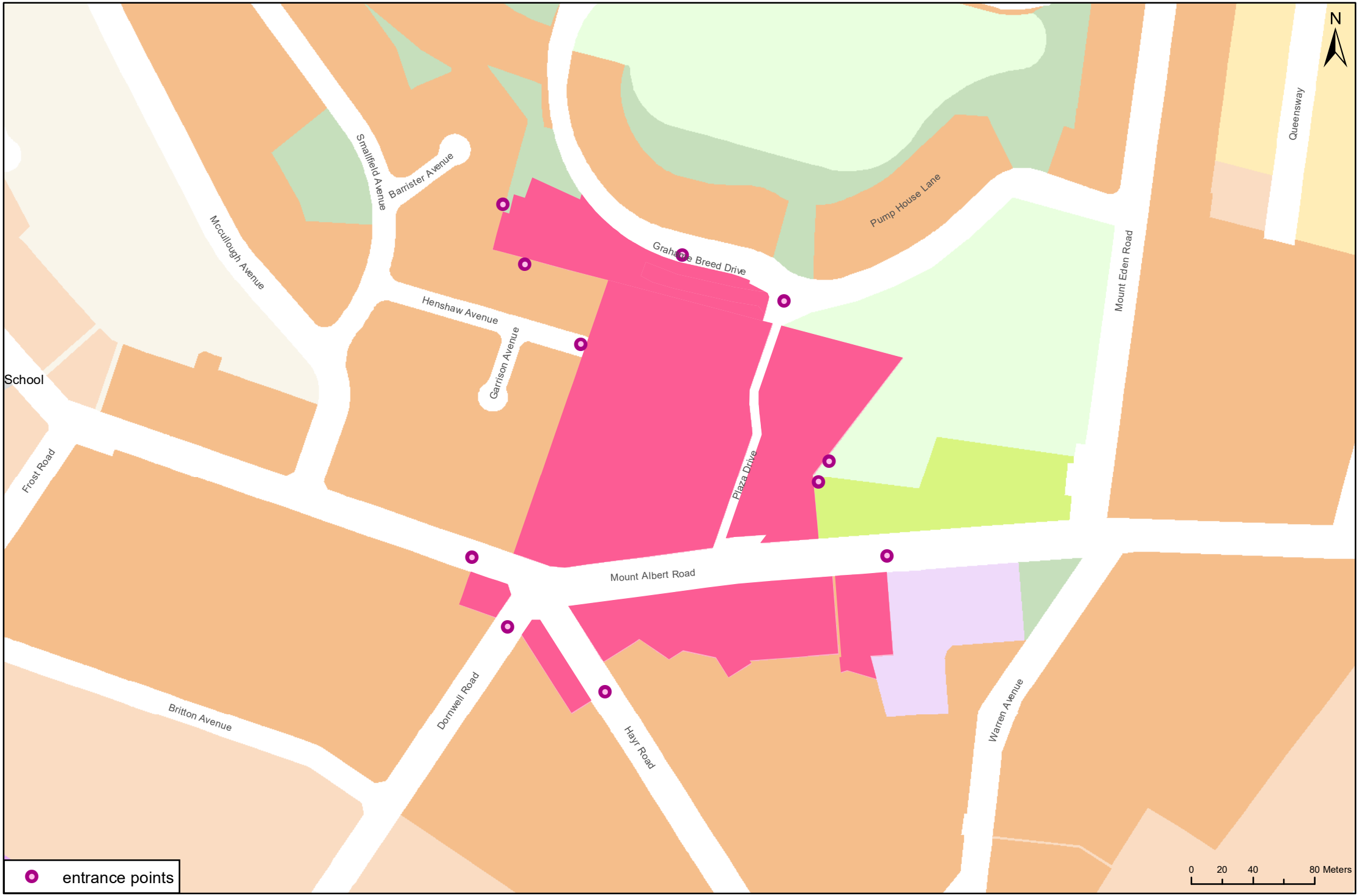
Kervil Avenue
Kaumatua Place
Taikata Road
Peachgrove Road
Barberry Lane
Yeovil Road
Te Atatu Road
Harbour View Road
Beach Road
Torlesse Road
Riverstone Road
Pringle Road
Gunner Drive
Longbush Road
Provence Esplanade
Rhone Avenue
Tuscany Way
Vinograd Drive
Vin Santo Lane
Siena Place
N
entrance points
0 20 40 80 Meters



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Appendix 17

Equivalent zones:

Hauraki Gulf Islands District Plan

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
Land unit – Island Residential 1 (traditional residential)	Residential - Rural and Coastal Settlement Zone	The Hauraki Gulf Islands District Plan ('**HGI**') zone is described "close to the commercial centre or villages", "generally low intensity" and "highly modified, open and spacious landscape". The objectives and policies refer to onsite wastewater disposal. The minimum site area for subdivision is 1,500m^2. The closest match in the Auckland Unitary Plan ('**AUP**' or '**Unitary Plan**') would be the Rural and Coastal Settlement zone as the objectives and policies of this zone refer to a "rural and coastal character" and the need for onsite wastewater. The minimum site size for subdivision is 2,500m^2. Both provide for a limited range of similar activities and have the same maximum height control. Both also recognise servicing and infrastructure constraints.	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located in rural areas or coastal environments".
Land unit – Island Residential 2 (bush residential)	Residential - Large Lot Zone	HGI zone is described as generally adjoining Island residential 1, having moderate to steep slopes, low intensity development and heavy bush cover. The objectives and policies refer to retaining indigenous vegetation cover. The minimum size of subdivision is 2000m^2. The closest match in the Unitary Plan would be the Residential - Large Lot which objectives and policies refer to development maintaining the area's "spacious landscape character, landscape qualities and natural features". The minimum size of subdivision is 4000m^2.	Large lot residential zone	The closest match in the National planning standard is Large lot residential zone which has the definition: "Areas used predominantly for residential activities and buildings such as detached houses on lots larger than those of the Low density residential and General residential zones, and where there are particular landscape characteristics, physical limitations or other constraints to more intensive development"
Commercial 1 (Oneroa village)	Business – Neighbourhood Centre Zone	HGI zone is described as providing generally small scale retail and other commercial activities for relatively high volumes of traffic. Oneroa has a stronger tourism function with cafes, shops, museum, art gallery etc. The island's only library is also located at Oneroa. The objectives and policies enable a	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		vibrant, varied and safe retail environment and allow appropriate commercial growth. The AUPs Business - Neighbourhood Centre Zone applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive environments and attract ongoing investment, promote commercial activity, and provide employment, housing and goods and services".		commercial and community activities that service the needs of the immediate residential neighbourhood."
Commercial 2 (Ostend village)	Business - Local Centre Zone	The HGI zone is seen as the administrative centre of Waiheke, with most sizes being greater than 1000m^2 with a mix of commercial, residential and community facilities. The main supermarket and council offices are located at Ostend. The objectives and policies enable and consolidate commercial and community facilities. The closest match in the Unitary Plan would be the Business – Local Centre Zone which provide for local convenience needs including local retail, commercial services, offices, food and beverage, and appropriately scaled supermarkets.	Local centre zone	The closest match in the National planning standard is the Local centre zone which has the definition: "Areas used predominantly for a range of commercial and community activities that service the needs of the residential catchment."
Commercial 3 (Local shops)	Business – Neighbourhood Centre Zone	This HGI zone is defined as having "a smaller scale than retail activities within the main commercial centres of Oneroa and Ostend". The objectives and policies provide for small scale retail, and certain non-retail activities, in close proximity to residential areas". The same as the HGIs commercial 1, the AUPs Business - Neighbourhood Centre Zone applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive environments and attract ongoing investment, promote commercial activity, and provide employment, housing and goods and services".	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood."

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
Commercial 4 (visitor facilities)	Business – Neighbourhood Centre Zone	HGI zone is described as providing for visitor facilities and camping facilities (and restaurants as an D activity), while not providing for dwellings. The minimum size of subdivision is 1500m^2. While more restrictive in the activities than most of the AUP zones, the most closely aligned AUP zone would be Business - Neighbourhood Centre Zone. This applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive environments and attract ongoing investment, promote commercial activity, and provide employment, housing and goods and services". While this zone does provide for visitors accommodation as a permitted activity, camping facilities are not provided in the activity table and are therefore a non-complying activity.	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood."
Commercial 5 (industrial)	Business – Light Industry Zone Zone	The HGI land unit is to provide for and protecting low and medium intensity industrial activities, while ensuring adverse environmental effects are avoided or mitigated. The most closely related AUP zone would be the Business – Light Industry Zone, this is provides for industrial activities which no not generate odour, dust or noise.	Light industrial zone	The closest match in the National planning standard is the Light industrial zone which has the definition: "Areas used predominantly for a range of industrial activities, and associated activities, with adverse effects (such as noise, odour, dust, fumes and smoke) that are reasonable to residential activities sensitive to these effects"
Commercial 6 (quarry)	Special Purpose – Quarry Zone	The land unit provides for quarrying and associated activities, while protecting the amenity and character. The closely related AUP zone is the Special Purpose – Quarry zone which provides for significant mineral extraction activities.		No Special Purpose zone provided in the National Planning standard for quarrying

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
Commercial 7 (wharf)	Coastal – Ferry Terminal Zone	The HGIs Commercial 7 (wharf) provides for the operation of the wharf and associated transport and recreational facilities. This most closely aligns with the AUPs Coastal – Ferry Terminal zone which also provides for the operation of ferry terminal facilities.		No specific zone provided in the National Planning standard for wharves
Matiatia (gateway)	Business - Local Centre Zone	The land unit provides currently for a ferry terminal and surrounding transport facilities while the objectives and policies allow for a mix of activities including retail, offices and restaurants and cafes. Height of up to 8m in the mixed use portion of the area. As the wharf in the area only covers a small area while the rest of the area is intended for a mix of uses, this most closely aligns with the AUPs Business - Local Centre. This zone provides range of activities including for local convenience needs including local retail, commercial services, offices, food and beverages. The height of the Local Centre would need to be controlled to be aligned with the HGI height.	Local centre zone	The closest match in the National planning standard is the Local centre zone which has the definition: "Areas used predominantly for a range of commercial and community activities that service the needs of the residential catchment."
Open space 1 (ecology and landscape)	Open Space – Informal Recreation Zone	The HGI zone is described as facilitating the use and enjoyment of local parks and esplanade reserves for passive recreation while protecting the visual amenity and ecological value of the land unit. The most closely related AUP zone is Open Space – Informal Recreation zone, which maintains the open and spacious character, amenity values and any historic, Mana Whenua, and natural values of the zone and provides for informal recreational activities.	Natural open space zone	The closest match in the National planning standard is the Natural open space zone which has the definition: "Areas where the natural environment is retained and activities, buildings and other structures are compatible with the characteristics of the zone."
Open space 2 (recreation and	Open Space – Sport and Active	The HGI zone is described for the use of active recreation and community activities while protecting the visual amenity values of the land unit.	Sport and active recreation	The closest match in the National planning standard is the Sport and active recreation zone which has the

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
community facilities)	Recreation Zone	The most closely related AUP zone is Open Space – Sport and Active Recreation zone, which provides indoor and outdoor sport and active recreation and activities accessory to these activities.	zone	definition: "Areas used predominantly for a range of indoor and outdoor sport and active recreational activities and associated facilities and structures."
Open space 3 (Rangihoua Park)	Open Space – Sport and Active Recreation Zone	The HGI zone provides sport facilities (including golf, equestrian, tennis, mountain biking and playing fields), walking tracks, picnic spots, a cemetery and historic museum. The objectives and policies of the area is to maintain the enhance the ecological values and provide a wide range of recreational facilities. The most closely related AUP zone is Open Space – Sport and Active Recreation Zone, which provides indoor and outdoor sport and active recreation and activities accessory to these activities.	Sport and active recreation zone	The closest match in the National planning standard is the Sport and active recreation zone which has the definition: "Areas used predominantly for a range of indoor and outdoor sport and active recreational activities and associated facilities and structures."
Open space 4 (marae)	Special Purpose – Māori Purpose Zone	The land unit provides for marae based activities and recognises and provides for the heritage, cultural, and community activities associated with a marae. The most closely related AUP zone is Special Purpose – Māori Purpose Zone, which has the purpose is to provide for the social and cultural needs of Mana Whenua and mataawaka and to promote the establishment of marae and papakāinga with supporting economic development to ensure thriving and self-sustaining Māori communities.	Special purpose zone: Māori purpose zone	The closest match in the National planning standard is the Māori purpose zone which has the definition: "Areas used predominantly for a range of activities that specifically meet Māori cultural needs including but not limited to residential and commercial activities"
Conservation	Open Space – Conservation Zone	The HGI land unit covers a number of smaller islands, both publicly and privately owned which have high scenic and ecological conservation values. The objectives and policies ensure that "the land unit is appropriately managed to enable conservation, preservation and enhancement of the natural environment along with appropriate educational, visitor and recreational activities".	Natural open space zone	The closest match in the National planning standard is the Natural open space zone which has the definition: "Areas where the natural environment is retained and activities, buildings and other

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		In the AUP, Open Space – Conservation Zone best fits the HGI land unit as it applies to open spaces with natural, ecological, landscape, and cultural and historic heritage values. The objectives and policies of the zone are "values of the zone are enhanced and protected from adverse effects of use and development" and "that use and development complements and protects the conservation values and natural qualities of the zone".		structures are compatible with the characteristics of the zone."
Tryphena settlement area		The HGI settlement is described as the largest existing population on Great Barrier and is characterised by a historical small lot pattern with small scale development, larger bush cover lots, the main wharf entry point for the island and two separate retail areas. The objectives and policies allow for development in a way that doesn't compromise bush cover and limits the foot prints of buildings on larger sites.		
Tryphena (local retailing area)	Business – Neighbourhood Centre Zone	The objectives and policies of this area is to concentrate good quality visitor and local retail development and activities within the local retailing area. The minimum subdivision size is 1500m^2. The most closely related AUP zone is Business - Neighbourhood Centre Zone which applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive environments and attract ongoing investment, promote commercial activity, and provide employment, housing and goods and services".	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood."
Tryphena (headland protection area)	Residential - Large Lot Zone	The objective of the area is to retain the high amenity value of the headland protection area as a means of separating the Mulberry Grove and Gooseberry Flat residential area. A small number of residential activities are permitted in the area. The	Large lot residential zone	The closest match in the National planning standard is Large lot residential zone which has the definition: "Areas used predominantly for residential activities and

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		minimum subdivision size is 3000m^2 (but on average is 7000m^2). The closest related AUP zone is Residential - Large Lot which objectives and policies refer to development maintaining the area's "spacious landscape character, landscape qualities and natural features". The minimum size of subdivision is 4000m^2.		buildings such as detached houses on lots larger than those of the Low density residential and General residential zones, and where there are particular landscape characteristics, physical limitations or other constraints to more intensive development"
Tryphena (residential amenity area)	Residential - Rural and Coastal Settlement Zone	The objectives and policies allow for development in a way that doesn't compromise bush cover and limits the footprints of buildings on larger sites. The minimum subdivision size is 2000m^2. In the AUP the most closely related zone is Residential - Rural and Coastal Settlement zone as the objectives and policies of this zone refer to a rural and coastal character. The minimum site size for subdivision is 2,500m^2.	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located in rural areas or coastal environments".
Tryphena (Mulberry Grove School area)	Special Purpose - School Zone	This HGI area provides specifically for the school and its associated activities. Subdivision is a non-complying activity. In the AUP the most closely related zone is Special Purpose - School Zone, which provides specifically for schooling activities.		No Special Purpose zone provided in the National Planning standard for schools
Medlands settlement area		Medlands settlement area is described as the second largest residential area on Great Barrier with the settlement running parallel to the Medlands beach including residential and visitor activities.		
Medlands (residential amenity area)	Residential - Rural and Coastal Settlement Zone	The objectives and policies talk about recognising the existing development and subdivision patterns and protecting the sensitive nature of the coastal environment. The minimum subdivision size is 2000m^2. In the AUP the most closely related zone is Residential - Rural and Coastal Settlement zone as the objectives and policies of	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		this zone refer to a rural and coastal character. The minimum site size for subdivision is 2,500m^2.		in rural areas or coastal environments".
Medlands (dune and wetland conservation areas)	Open Space – Conservation Zone	The area is made up of coastal dune and wetland areas which remains in its natural state. The area allows for conservation activities, visitor information centre and one dwelling per site as a permitted activity. Subdivision is a non-complying activity and so no minimum size is specified. In the AUP, Open Space – Conservation Zone best fits the HGI land unit as it applies to open spaces with natural, ecological, landscape, and cultural and historic heritage values. The objectives and policies of the zone are "values of the zone are enhanced and protected from adverse effects of use and development" and "that use and development complements and protects the conservation values and natural qualities of the zone".	Natural open space zone	The closest match in the National planning standard is the Natural open space zone which has the definition: "Areas where the natural environment is retained and activities, buildings and other structures are compatible with the characteristics of the zone."
Claris settlement area		This HGI settlement is defined as mixture of wetlands, rolling dunes and flat alluvial pasture, it also has a mixture of uses including and airport, light industry, retail and residential. The objectives and policies state "to consolidate similar activities in the areas identified to ensure that effects of activities do not affect the function of the airport and surrounding activities"..		
Claris (local retailing area)	Business - Neighbourhood Centre Zone	The objective of the retail area is "to facilitate the establishment of local retail, service and visitor activities of high amenity in the local retailing area, without compromising the function of Claris airport". The minimum subdivision size is 1500m^2. The most closely related AUP zone is Business - Neighbourhood Centre Zone which applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive environments and attract ongoing investment, promote	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood."

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		commercial activity, and provide employment, housing and goods and services".		
Claris (residential amenity area)	Residential - Rural and Coastal Settlement Zone	The minimum subdivision size is 1500m^2. This closest related AUP zones is the Residential - Rural and Coastal Settlement zone as the objectives and policies of this zone refer to a "rural and coastal character" and have a minimum site size for subdivision of 2,500m^2.	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located in rural areas or coastal environments".
Claris (airport)	Special Purpose - Airports and Airfields Zone	The airport provides the main air transport link to the island and limits the activities to those which are associated with the functions of the airport. Subdivision is a non-complying activity. The closest relation in the AUP is the Special Purpose - Airports and Airfields Zone, which provides specifically for this activity.	Special purpose zone: Airport zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for the operation and development of airports and other aerodromes as well as operational areas and facilities, administrative, commercial and industrial activities associated with airports and other aerodromes."
Claris (dune and wetland conservation area)	Open Space – Conservation Zone	The area is made up of coastal dune and wetland areas in both a natural and modified state. The area allows for conservation activities, visitor information centre and one dwelling per site as a permitted activity. The minimum subdivision size is 1ha. In the AUP, Open Space – Conservation Zone best fits the HGI land unit as it applies to open spaces with natural, ecological, landscape, and cultural and historic heritage values. The objectives and policies of the zone are "values of the zone are enhanced and protected from adverse effects of use and development" and "that use and development	Natural open space zone	The closest match in the National planning standard is the Natural open space zone which has the definition: "Areas where the natural environment is retained and activities, buildings and other structures are compatible with the characteristics of the zone."

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		complements and protects the conservation values and natural qualities of the zone".		
Claris (light industry area)	Business - Light Industry Zone	The light industrial area provides for light industrial activities, while safeguarding against adverse effects to the surround environment. The minimum subdivision size is 2000m^2. The most closely related AUP zone would be the Business – Light Industry Zone, this is provides for industrial activities which no not generate odour, dust or noise.	Light industrial zone	The closest match in the National planning standard is the Light industrial zone which has the definition: "Areas used predominantly for a range of industrial activities, and associated activities, with adverse effects (such as noise, odour, dust, fumes and smoke) that are reasonable to residential activities sensitive to these effects"
Okupu settlement area **Okupu (residential amenity area)**	Residential - Rural and Coastal Settlement Zone	This settlement is characterised by sloping typology and dominance of regenerating vegetation. The objectives and policies enable development in a way that does not compromise the bush, ecological and landscape values. The minimum subdivision size is 2000m^2. In the AUP the most closely related zone is Residential - Rural and Coastal Settlement zone as the objectives and policies of this zone refer to a rural and coastal character. The minimum site size for subdivision is 2,500m^2.	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located in rural areas or coastal environments".
Whangaparapara settlement area **Whangaparapara (residential amenity area)**	Residential - Rural and Coastal Settlement Zone	Whangaparapara settlement is comprised mainly of residential activities and a wharf. The objectives and policies are to maintain the high value nature charataer of the wider area. The minimum subdivision size is 2000m^2. In the AUP the most closely related zone is Residential - Rural and Coastal Settlement zone as the objectives and policies of this zone refer to a rural and coastal character. The minimum site size for subdivision is 2,500m^2.	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located in rural areas or coastal environments".

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
Awana settlement area **Awana (residential amenity area)**	Residential - Rural and Coastal Settlement Zone	This settlement area is located at the southern end of a white sand bay and is characterised by well integrated housing that is set amongst the regenerating indigenous vegetation. The objectives and policies are to set to maintain and enhance the low impact character of the residential area. The minimum subdivision size is 2000m^2. In the AUP the most closely related zone is Residential - Rural and Coastal Settlement zone as the objectives and policies of this zone refer to a rural and coastal character. The minimum site size for subdivision is 2,500m^2.	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or community activities that are located in rural areas or coastal environments".
Okiwi settlement area		The HGI settlement has a primary school, sports fields and small collection of house, along with an area of rolling pasture. The objectives and policies provide for residential development and supports small scale commercial and education facilities.		
Okiwi (local retailing area)	Business - Neighbourhood Centre Zone	The objective of the retail area is "to provide an area for commercial activities which are compatible with the character and scale of Okiwi, to service the north part of Great Barrier". The minimum site size for subdivision is 1500m^2. The most closely related AUP zone is Business - Neighbourhood Centre Zone which applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive environments and attract ongoing investment, promote commercial activity, and provide employment, housing and goods and services".	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood."
Okiwi (residential amenity area)	Residential - Rural and Coastal Settlement Zone	The objective of the residential area is " to maintain and enhance the low impact character of the residential amenity area". The minimum site size for subdivision is 2000m^2 . In the AUP the most closely related zone is Residential - Rural and Coastal Settlement zone as the objectives and policies of	Settlement zone	The closest match in the National planning standard is the Settlement zone which has the following definition: "Areas used predominantly for a cluster of residential, commercial, light industrial and/or

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		this zone refer to a rural and coastal character. The minimum site size for subdivision is 2,500m^2.		community activities that are located in rural areas or coastal environments".
Okiwi (Okiwi school area)	Special Purpose - School Zone	This HGI area provides specifically for the school and its associated activities. Subdivision is a non-complying activity. In the AUP the most closely related zone is Special Purpose - School Zone, which provides specifically for schooling activities.		No Special Purpose zone provided in the National Planning standard for schools
Port Fitzroy settlement area		This settlement is characterised small scale residential development adjoining a small bay. The objectives and policies are to maintain the existing development pattern and protect the bush coverage.		
Port Fitzroy (residential amenity area)	Residential - Large Lot Zone	The objective of this area is to protect and enhance the low impact bush covered character of the residential area. The minimum site size for subdivision is 5000m^2. In the AUP the most closely related zone is Residential - Large Lot which objectives and policies refer to development maintaining the area's "spacious landscape character, landscape qualities and natural features". The minimum size of subdivision is 4000m^2.	Large lot residential zone	The closest match in the National planning standard is Large lot residential zone which has the definition: "Areas used predominantly for residential activities and buildings such as detached houses on lots larger than those of the Low density residential and General residential zones, and where there are particular landscape characteristics, physical limitations or other constraints to more intensive development"
Port Fitzroy (local retailing area)	Business - Neighbourhood Centre Zone	This area provides retail activities which are compatible with the Port fitzroy area. The minimum site size for subdivision is 1500m^2. The most closely related AUP zone is Business - Neighbourhood Centre Zone which applies to single corner stores or small blocks of shops which provide residents and passers-by with daily retail and commercial service needs. The objectives and policies refer to the zone as "attractive	Neighbourhood centre zone	The closest match in the National planning standard is the Neighbourhood centre zone which has the definition: "Areas used predominantly for small-scale commercial and community activities that service the needs of the immediate residential neighbourhood."

Hauraki Gulf Islands District Plan: zone	Auckland Unitary Plan: 'Best fit' zone	Comment	National Planning Standards: 'Best fit' zone	Comment
		environments and attract ongoing investment, promote commercial activity, and provide employment, housing and goods and services".		

Appendix 18

Multi-Criteria Analysis – Frequent Transit Network Corridors

Application of Multi-Criteria Analysis to 69 Frequent Transit Network Corridors

1. Introduction

1.1 This appendix describes the multi-criteria analysis ('**MCA**') developed to support and inform the evaluation of options to deliver residential intensification along Frequent Transit Network Corridors ('**FTN corridors**'). The following principles were used to inform the development of the MCA:

- Enable intensification compatible with the Future Development Strategy and the quality compact city approach.
- Enable some increased intensification to add capacity consistent with the government requirements under Clause 4(1)(a) of the Resource Management (Consenting and Other System Changes) Amendment Act 2025 ('**RMA Amendment Act**').
- Reflect urban growth and form outcomes supporting intensification within centres and along corridors as described in Part 2 of the Regional Policy Statement ('**RPS**').

1.2 This Appendix follows the following structure:

- **Section 2:** Explains the rationale for developing a multi-criteria analysis to evaluate corridors for intensification.
- **Section 3:** Details the criteria used for the MCA - description, purpose, how the data was derived and scored.
- **Section 4:** Outlines the approach to weighting the criteria.
- **Section 5:** Discusses how MCA scores can be used to inform the spatial extent of intensification along FTN corridors.
- **Section 6**: Presents the outcomes of the MCA, including a summary table of corridor scores

1.3 The five criteria used for analysing Auckland's FTN corridors are:

- Bus frequency
- Accessibility
- Concentration of amenities
- Residential land demand
- Strategic connections

2. Why develop a multi-criteria-analysis?

2.1 PC120 seeks to prioritise greatest heights and densities within areas covered Policy 3 of the National Policy statement for Urban Development ('**NPS-UD**') and by Clause 4(1)(b) and (c) of Schedule 3C of the RMA Amendment Act. To meet the government's capacity

requirements[1], additional intensification is proposed along some of Auckland's current and planned Frequent Transit Network ('**FTN**'). The FTN provides high frequency connections to employment, education, shops and other amenities.

2.2 The Frequent Transit Network covers most of Auckland's urban areas and the entirety of the network may not be appropriate for upzoning. To determine this, it requires an evaluation tool to understand how segments or corridors of the FTN might perform against a selection of qualitative and quantitative criteria and inform options for residential intensification.

2.3 A number of evaluation methods can be used for Auckland's FTN corridors. A MCA[2] has been adopted as the most appropriate tool for informing which parts of the FTN might be most appropriate for residential intensification. This enables consideration of different criteria that could be applied and enables results to be communicated in a robust and transparent manner.

3. What criteria have been used within the MCA?

3.1 Bus Frequency:

Description and purpose

By definition, Auckland's FTN has buses operating at least every 15 minutes between 7am and 7pm, 7 days a week. However, not all parts of the FTN are equal. Some routes have higher frequencies, and some corridors have multiple routes along them (or parts of them).

This criterion reflects the bus frequencies (vehicles per hour) along each corridor expressed as a median of the busiest direction during peak hours. It uses bus frequency data provided from Auckland Transport for the post-City Rail Link network, in the AM peak from 07:00 - 09:00. The purpose of this criterion is to have a measure which accounts for merging of multiple bus routes as well as frequency.[3]

How was the data derived and scored?

The bus frequency data from Auckland Transport was integrated with road geometries and 'cut' to be consistent with the 69 the FTN corridor shapefiles. Bus frequency data is not aggregated to centreline of road but follows approximate paths between stops, as illustrated in Figure 1.

[1] Clause 4(1)(a) of the Resource Management (Consenting and Other System Changes) Amendment Act 2025
[2] Multi-criteria analysis is a tool for appraising and ranking alternative policy options against a given set of objectives and criteria. It often includes both quantitative and qualitative variables. Ministry for the Environment. 2017. *A guide to section 32 of the Resource Management Act: Incorporating changes as a result of the Resource Legislation Amendment Act 2017.*
[3] Acknowledging that supporting bus services also take people places they want to go.

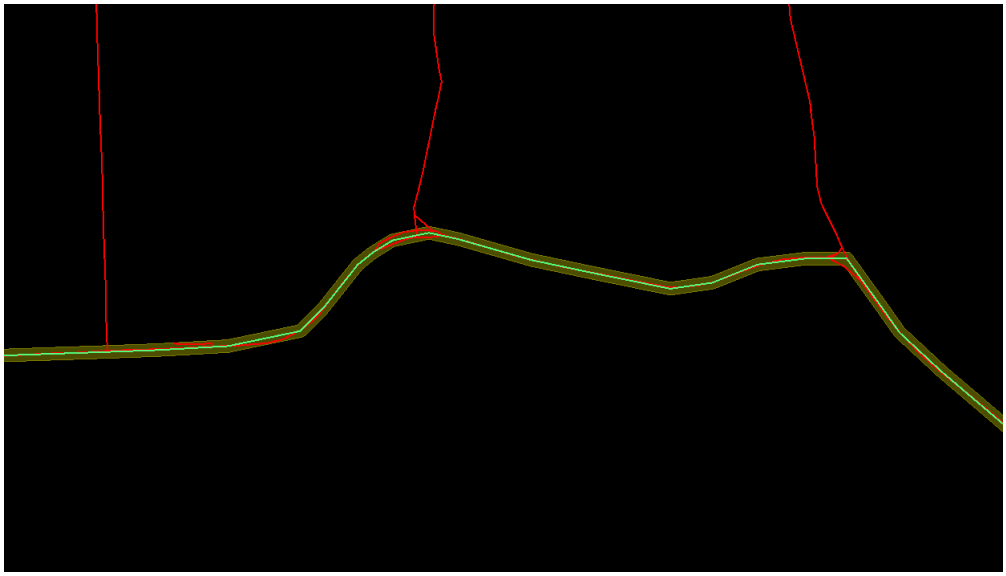


Figure 1. Snippet of FTN corridor shapefile (Green centreline) overlaid on frequency data (red line).

This presented some challenges in capturing all frequency data along the FTN corridors. To manage this, a 10m buffer (shown by green buffer in Figure 4) was added to capture all relevant data. This process enabled median bus frequency values to be extracted per corridor for scoring within the MCA.

Scoring (0-3) is based on the upper, middle and lower quartiles from the range of access scores produced.

3.2 Accessibility:

Description and purpose

This criterion uses scores produced by Auckland Council's Framework for Urban Access ('**FUA**') tool. The FUA methodology (see **Appendix 2**) uses a combination of validated Auckland Council data and frequently updated public datasets to analyse access by public transport and/or walking to a range of opportunities (e.g. jobs, people, shops, schools) across the urban area of Auckland.

To reflect the relative importance of different trip purposes, the results for each opportunity type are weighted using proportions from the New Zealand Household Travel Survey (**HHTS**). The HHTS is run by the Ministry of Transport and is the most comprehensive dataset available in New Zealand for understanding trip purpose distribution, both nationally and regionally. The result is a comparable 'access score' (between 0 and 1) at high spatial resolution across the Auckland urban area.

How was the data derived and scored?

An overall access score is provided for each of the 69 FTN corridors and used to measure its relative accessibility.

The FUA is best used to analyse access relative to a nodal point. The linear nature of corridors presents challenges in sourcing data that was statistically representative. To manage this, a 'test' or 'check' of how representative the overall median score is of different parts of the corridor can be used. This takes a median FUA score for every 500m interval along each corridor, illustrated in **Error! Reference source not found.** below.

Figure 2. FUA Segment Access Map: Illustrating variance in access scores across the Frequent Transit Network as a gradient of Yellow to Dark Grean/Teal. (Yellow = highest access scores; Dark Grean/Teal = lower access scores).

With consideration given to the test described above, the original (raw) access values[4] were used to create a new set of values that were evenly spaced along the corridor. An overall median value was then used for each corridor to enable scoring within the MCA. A box plot is included in Figure 6, at the end of this report to demonstrate the spread of equally spaced values along the corridor lengths.

Scoring (0-3) is based on the upper, middle, and lower quartiles from the range of access scores produced.

[4] Which were distributed based on street, driveway, and path intersections.

3.3 Concentration of amenities

Description and purpose

This criterion reflects the total number and hierarchy of centres which occur along the length of a corridor. It captures the distribution and relative importance of centres along a corridor, recognising that access to a range of amenities and services supports intensification and contributes to a well-connected urban form.

How was the data derived and scored?

A 50m buffer was applied via GIS to each of the FTN corridor shapefiles to identify and extract all centre zones which occur along the corridor length. The centres were allocated a score based on their typology (level on the centres zone hierarchy):

- Neighbourhood Centre = 0.25
- Local Centre = 1
- Town Centre = 3
- Metropolitan Centre = 5

The sum of all centres along a corridor was calculated, then normalised by the corridor length (in metres). The value is then multiplied by 10,000 to provide a more legible and comparable value for scoring:

"Criteria 3 Centres along length" value = 10,000 × (Sum of Centre Scores ÷ Corridor Length in metres)

The overall scoring (0-3) of the criterion is based on the upper, middle and lower quartiles values provided per corridor.

3.4 Residential land demand:

Description and purpose

This criterion is informed by residential demand for land expressed as a median dollar value per square metre ($\$/m^2$). This criterion provides an indication of where residential demand is highest based on land values. The influence of zoning (i.e. the built form might be enabled) would be essentially stripped out from analysis of land values to provide a true reflection of demand based on where people want to live (i.e. are prepared to pay more for a certain location). Residential demand reveals people's preferences of where they want to live and factors in reasons that may make land more attractive (e.g. concentration of amenities, access to jobs and public transport, access via private vehicle).

This criterion is a quantitative measure of median residential land value per metre squared, per corridor. The data reflects the pattern of demand across FTN corridors, as expressed through land values.

The purpose of this criterion is to provide a robust, demand-based measure within the MCA that helps align greater building heights and residential densities with locations of highest market interest. This measure supports more feasible development outcomes and informs where higher-intensity zoning interventions are most appropriate and most likely to be taken up by the market.

How was the data derived and scored?

The methodology used to inform this criterion and further explanation of the land demand tool is explained in **Appendix 25**. **Figure 4** provides an illustration of zone-adjusted land values per square metre within FTN corridor.

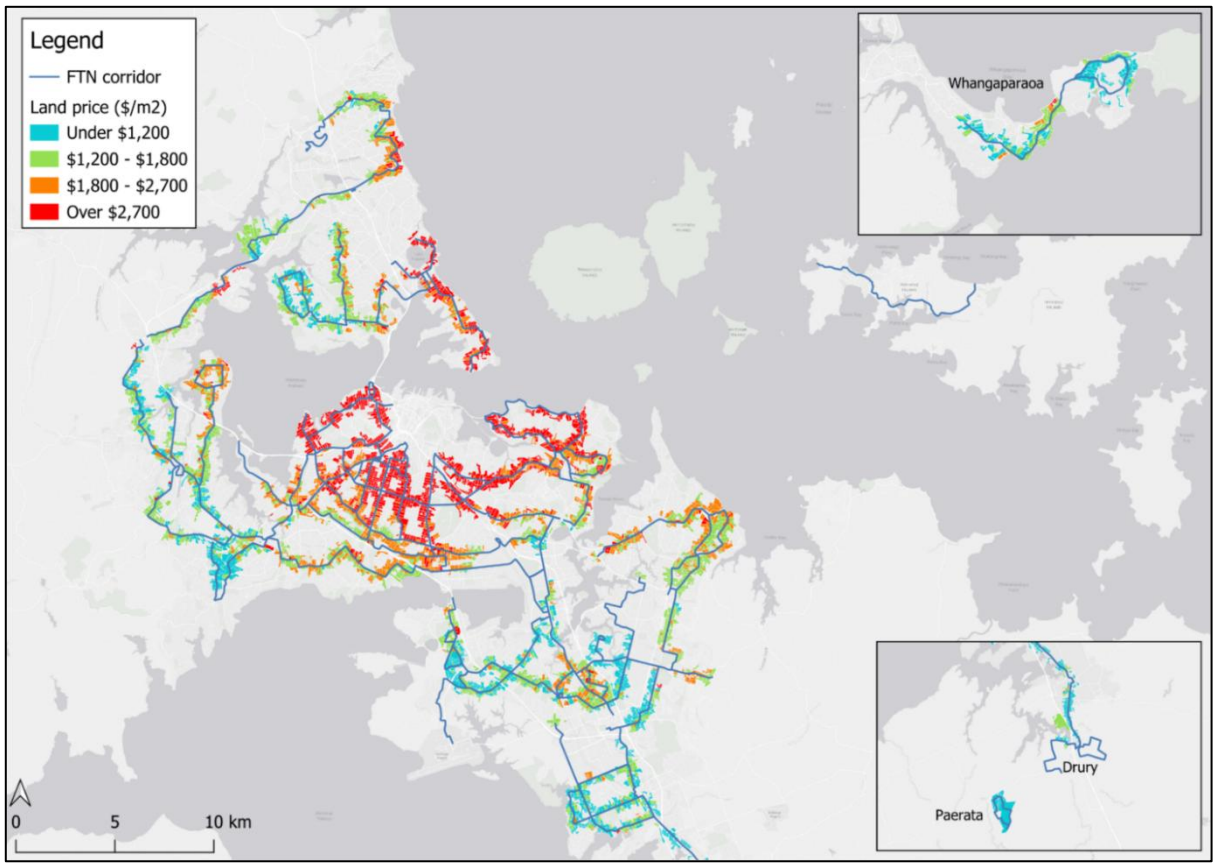


Figure 3. Illustration of Zone-adjusted land values per square metre within FTN corridor

Scoring (0-3) of this criterion is based on the upper, middle and lower quartiles from the median values provided per corridor. A generic example of how this criterion could be scored is outlined below, Error! Reference source not found.:

Corridor Name	Land Demand Values (Median $/m2	Quartile Range	Score
Corridor 1	$2,949	Upper	3
Corridor 2	$1,761	Middle	2
Corridor 3	$1,198	Lower	1
Corridor 4	$1,112	Below first quartile	0

Figure 4. Example of scoring (0-3) according to quartile values.

3.5 Strategic connections:

Description and purpose

The Ministry for the Environment's guidance[5] outlines principals to be considered in determining the best locations for intensification. Section 6.4. of this guidance outlines that increased heights could be appropriate in locations where there is high demand, and in proximity to the city centre or metropolitan centres. While this section is specific to intensification relative to Policy 3 areas around Rapid Transit Stops, this same principle can be applied to the FTN corridors.

Accordingly, this criterion seeks to identify those FTN corridors which directly connect to the city centre or metropolitan centres along that section of corridor. The criterion reflects the total number of metropolitan centres along each corridor, where a metropolitan centre to metropolitan connection occurs, and the presence of the city centre along a corridor.

This provides a measure that prioritises strategic connections to the city centre and metropolitan centres, reinforcing their role as focal points for growth and intensification in alignment with Auckland's compact urban form strategy.

How was the data derived and scored?

This criterion is calculated (scored) in the following manner (a corridor may score in more than one category):

- Metropolitan centres along each corridor (1 point for each metropolitan centre)
- Where a metropolitan centre to metropolitan connection occurs (1 point for each metropolitan centre – metropolitan centre connection)
- Presence of the city centre along a corridor (1 point for the city centre)

The overall score under this criterion is the sum of the above scores (a possible maximum of 3 and a minimum of 0).

[5] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment.

4. How might the outcome change by applying a weighting of each criterion?

In an MCA, different weighting can be allocated to specific criteria to represent those criteria that may have greater significance to inform decision making. During the development of this MCA, no single criterion emerged as clearly warranting greater weighting over the others. As such, equal weighting was considered the most appropriate and transparent approach for this analysis. However, it is noted that future iterations of the MCA could apply differentiated weighting to reflect evolving policy priorities or to emphasise criteria.

5. How might the scores from the multi criteria analysis be used to determine the spatial extent of intensification?

The MCA scores provide a comparative assessment of FTN corridors based on five criteria. These scores can be used to rank corridors to determine which are most appropriate for residential intensification. Higher-scoring corridors indicate locations where intensification is more likely to be feasible, well-connected, and aligned with strategic planning objectives. This ranking can inform decisions about where greater building heights and densities could be enabled along the FTN.

The MCA results could also be used to investigate further segmentation of corridors to reflect localised variation in performance, allowing for more targeted zoning interventions.

6. Outcomes of MCA for corridors

Table 1 included at the end of this report provides summary of the overall MCA scoring for each of the 69 FTN corridors. An overall map of all 69 FTN corridors and associated reference table is also included at the end of this report.

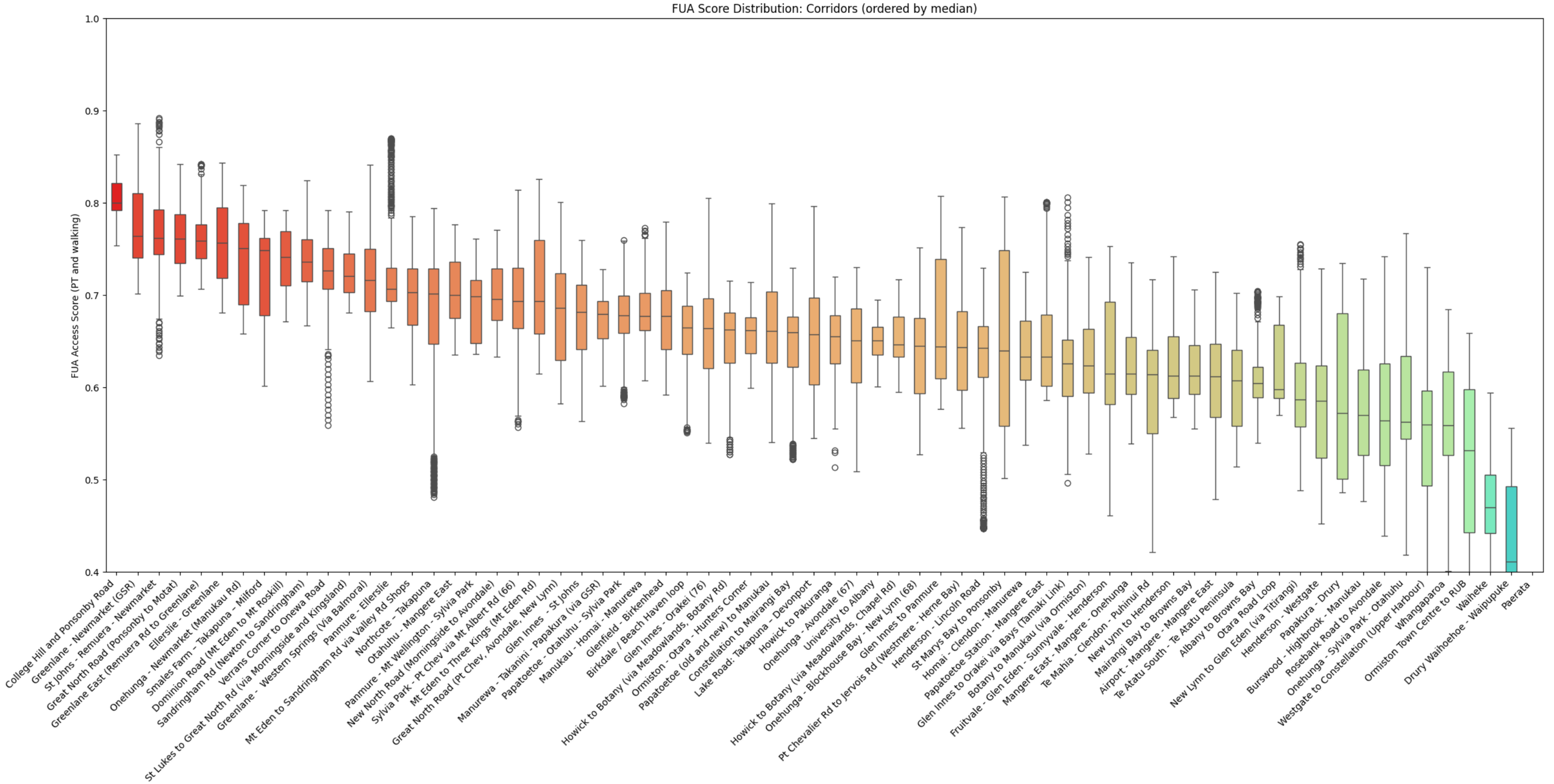


Figure 5. FUA Score Distribution: Corridors (Ordered by Median)

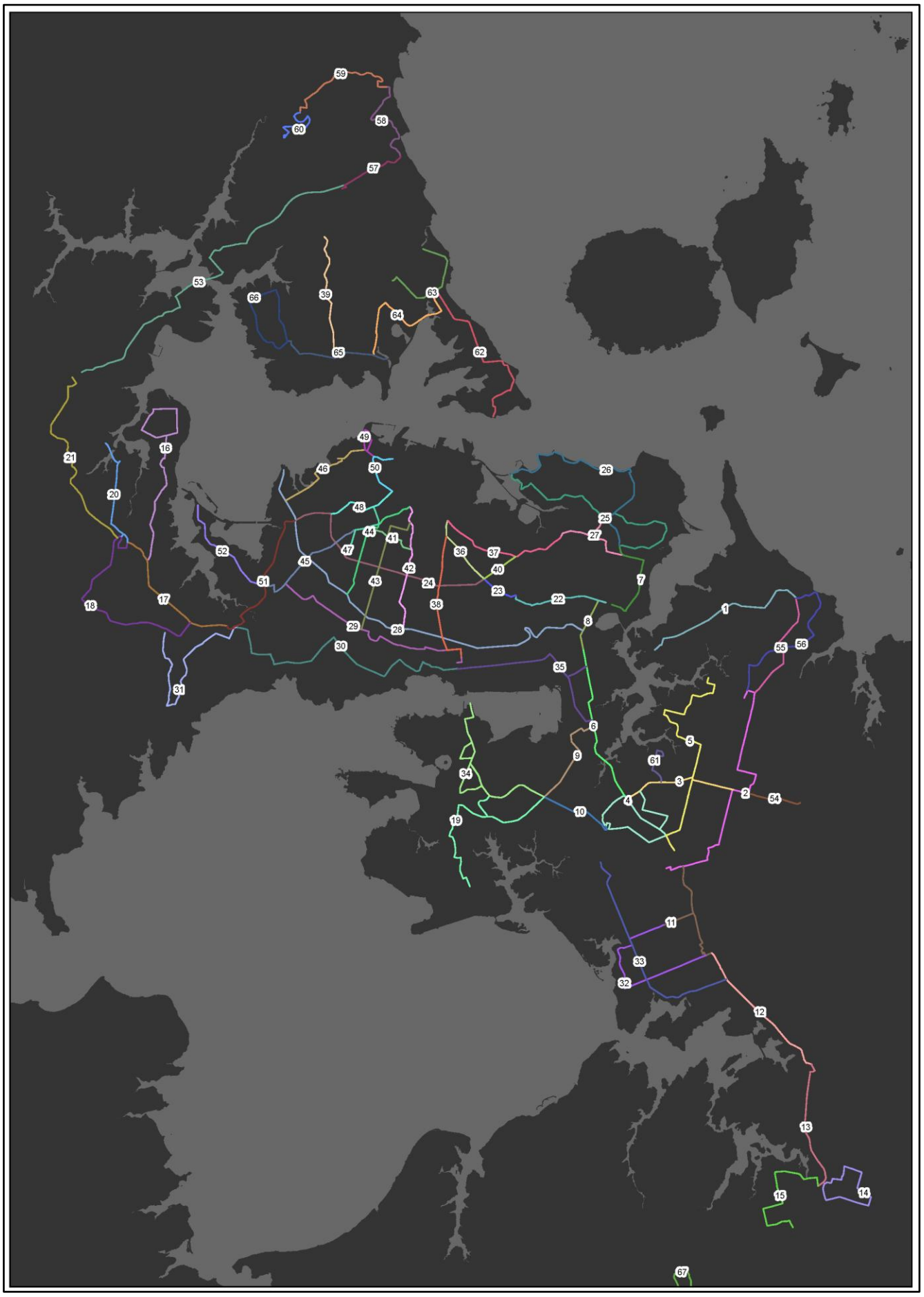


Figure 6. Overall FTN Corridors Reference Map

Map Reference Number and Frequent Transit Network Corridor Name			
1	Howick to Pakūranga	36	Greenlane - Newmarket (GSR)
2	Botany to Manukau (via Ormiston)	37	St Johns - Remuera - Newmarket
3	Ormiston - Ōtara - Hunters Corner	38	Onehunga - Newmarket (Manukau Rd)
4	Papatoetoe (old and new) to Manukau	39	Glenfield - Birkenhead
5	Burswood - Highbrook - Manukau	40	Greenlane East (Remuera Rd to Greenlane)
6	Papatoetoe - Ōtāhuhu - Sylvia Park	41	Mt Eden to Sandringham Rd via Valley Rd Shops
7	Glen Innes to Panmure	42	Mt Eden to Three Kings (Mt Eden Rd)
8	Panmure - Mt Wellington - Sylvia Park	43	Dominion Road (Mt Eden to Mt Roskill)
9	Ōtāhuhu - Mangere East	44	Sandringham Rd (Newton to Sandringham)
10	Papatoetoe Station - Mangere East	45	New North Road (Morningside to Avondale)
11	Manukau - Homai - Manurewa	46	Pt Chevalier Rd to Jervois Rd (Westmere - Herne Bay)
12	Manurewa - Takaanini - Papakura (via GSR)	47	St Lukes to Great North Rd (via Morningside and Kingsland)
13	Papakura - Drury	48	Great North Road (Ponsonby to Motat)
14	Drury Centre - Waihoehoe - Drury East	49	St Marys Bay to Ponsonby
15	Drury Auranga - Waipupuke	50	College Hill and Ponsonby Road
16	Te Atatū South - Te Atatū Peninsula	51	Great North Road (Pt Chev, Avondale, New Lynn)
17	New Lynn to Henderson	52	Rosebank Road to Avondale
18	Fruitvale - Glen Eden - Sunnyvale - Henderson	53	Westgate to Constellation (Upper Harbour)
19	Airport - Mangere - Mangere East	54	Ormiston Town Centre to RUB
20	Henderson - Lincoln Road	55	Howick to Botany (via Meadowlands, Chapel Rd)
21	Henderson - Westgate	56	Howick to Botany (via Meadowlands, Botany Rd)
22	Panmure - Ellerslie	57	Constellation to Mairangi Bay
23	Ellerslie - Greenlane	58	Mairangi Bay to Browns Bay
24	Greenlane - Western Springs (Via Balmoral)	59	Albany to Browns Bay
25	Glen Innes - Ōrākei (76)	60	University to Albany
26	Glen Innes to Ōrākei via Bays (Tamaki Link)	61	Ōtara Road Loop
27	Glen Innes - St Johns	62	Lake Road: Takapuna – Devonport
28	Mt Wellington - Pt Chev via Mt Albert Rd (66)	63	Smales Farm – Takapuna – Milford
29	Onehunga - Avondale (67)	64	Northcote – Takapuna
30	Onehunga - Blockhouse Bay - New Lynn (68)	65	Verrans Corner to Onewa Road
31	New Lynn to Glen Eden (via Titirangi)	66	Birkdale / Beach Haven loop
32	Homai - Clendon - Manurewa	67	Paerātā
33	Te Mahia - Clendon - Puhinui Rd	68	Whangaparoa
34	Mangere East - Mangere - Onehunga	69	Waiheke
35	Onehunga - Sylvia Park - Ōtāhuhu		

Figure 7. List of all FTN corridors and map reference number

Table 1: Overall MCA Scores - FTN Corridors

Map #	Corridor name	Legth (km)	FTN Route Name(s)	Overall MCA score	Residential Land Demand (Median $/m2)	Score	Accessibility Score (FUA Median)	Score	Sum of Centres along corridor (normalised by length)	Score	Strategic Connection (City Centre, Metropolitan Cenres) Score	Bus Frequency (Busiest VPH.median)	Score
38	Onehunga - Newmarket (Manukau Rd)	5.5	30	13	$ 3,308	3	0.7510	3	18.66	3	1	14	3
37	St Johns - Remuera - Newmarket	5.3	75	13	$ 3,640	3	0.7620	3	17.52	3	1	13	3
50	College Hill and Ponsonby Road	2.5	INN	12	$ 6,198	3	0.8004	3	12.02	2	1	20	3
23	Ellerslie - Greenlane	1.5	70	12	$ 2,978	3	0.7570	3	39.47	3	0	20	3
48	Great North Road (Ponsonby to Motat)	3.0	18, 11	12	$ 4,558	3	0.7616	3	13.94	2	1	30	3
36	Greenlane - Newmarket (GSR)	2.9	70	12	$ 4,054	3	0.7645	3	31.89	3	1	10	2
47	St Lukes to Great North Rd (via Morningside and Kingsland)	2.8	20	12	$ 3,242	3	0.7208	3	17.92	3	0	17	3
51	Great North Road (Pt Chev, Avondale, New Lynn)	6.0	18,11	11	$ 2,085	2	0.6861	2	24.01	3	1	17	3
22	Panmure - Ellerslie	3.9	70, 72X	11	$ 2,320	2	0.7069	3	16.10	3	0	18	3
44	Sandringham Rd (Newton to Sandringham)	4.7	24	11	$ 2,986	3	0.7361	3	11.08	1	1	22	3
63	Smales Farm – Takapuna – Milford	4.7	82	11	$ 4,251	3	0.7487	3	17.10	3	1	8	1
43	Dominion Road (Mt Eden to Mt Roskill)	5.3	25	10	$ 3,279	3	0.7415	3	5.65	0	1	15	3
42	Mt Eden to Three Kings (Mt Eden Rd)	5.2	27	10	$ 3,368	3	0.6934	2	8.15	1	1	13	3
17	New Lynn to Henderson	5.8	14	10	$ 1,205	1	0.6131	1	21.00	3	3	11	2
24	Greenlane - Western Springs (Via Balmoral)	9.2	65	9	$ 3,085	3	0.7161	3	12.29	2	0	8	1
40	Greenlane East (Remuera Rd to Greenlane)	1.5	65	9	$ 3,585	3	0.7588	3	19.62	3	0	4	0
41	Mt Eden to Sandringham Rd via Valley Rd Shops	2.0	64	9	$ 3,715	3	0.7030	3	15.01	2	1	5	0
45	New North Road (Morningside to Avondale)	4.8	22	9	$ 2,359	2	0.6959	2	15.00	2	0	16	3
64	Northcote – Takapuna	5.9	94	9	$ 2,143	2	0.7014	3	13.90	2	1	8	1
8	Panmure - Mt Wellington - Sylvia Park	2.4	74	9	$ 1,210	1	0.6988	2	37.53	3	1	10	2
2	Botany to Manukau (via Ormiston)	11.1	35	8	$ 1,390	1	0.6238	1	12.13	2	3	8	1
39	Glenfield - Birkenhead	5.0	95	8	$ 1,530	1	0.6774	2	13.11	2	0	14	3
56	Howick to Botany (via Meadowlands, Botany Rd)	6.9	72	8	$ 1,771	2	0.6626	2	14.88	2	1	8	1
6	Papatoetoe - Otahuhu - Sylvia Park	6.4	32	8	$ 1,275	1	0.6782	2	19.02	3	1	8	1
49	St Marys Bay to Ponsonby	2.3	INN	8	$ 5,806	3	0.6397	1	13.19	2	0	10	2
65	Verrans Corner to Onewa Road	4.6	97	8	$ 1,444	1	0.7268	3	9.69	1	0	26	3
27	Glen Innes - St Johns	4.6	76	7	$ 2,608	2	0.6820	2	9.17	1	0	10	2
1	Howick to Pakuranga	6.8	72	7	$ 1,954	2	0.6556	1	14.06	2	0	10	2
62	Lake Road: Takapuna – Devonport	7.4	81	7	$ 2,863	2	0.6574	2	14.28	2	1	4	0
30	Onehunga - Blockhouse Bay - New Lynn (68)	11.7	68	7	$ 1,813	2	0.6451	1	7.91	1	1	9	2
54	Ormiston Town Centre to RUB	2.1	N/A	7	$ 1,786	2	0.5316	0	15.26	3	0	11	2
28	Mt Wellington - Pt Chev via Mt Albert Rd (66)	17.3	66	6	$ 2,400	2	0.6939	2	8.22	1	0	7	1
57	Constellation to Mairangi Bay	3.1	83	6	$ 2,080	2	0.6600	2	3.22	0	0	9	2
26	Glen Innes to Orakei via Bays (Tamaki Link)	9.8	TMK	6	$ 3,386	3	0.6261	1	5.37	0	0	12	2
55	Howick to Botany (via Meadowlands, Chapel Rd)	4.6	72	6	$ 1,733	1	0.6469	1	20.06	3	1	4	0
11	Manukau - Homai - Manurewa	6.9	33	6	$ 1,166	0	0.6778	2	13.43	2	1	6	1
12	Manurewa - Takanini - Papakura (via GSR)	6.1	33	6	$ 923	0	0.6796	2	19.97	3	1	4	0
3	Ormiston - Otara - Hunters Corner	4.6	31	6	$ 900	0	0.6619	2	15.72	3	0	6	1
9	Otahuhu - Mangere East	4.2	32	6	$ 1,099	0	0.7005	3	10.07	1	0	12	2
46	Pt Chevalier Rd to Jervois Rd (Westmere - Herne Bay)	4.6	OUT	6	$ 5,261	3	0.6436	1	2.74	0	0	10	2
60	University to Albany	3.5	83	6		0	0.6507	1	14.49	2	1	12	2
59	Albany to Browns Bay	5.3	83	5	$ 1,449	1	0.6045	0	11.83	1	1	10	2
66	Birkdale / Beach Haven loop	6.3	97	5	$ 1,119	0	0.6652	2	2.79	0	0	16	3
25	Glen Innes - Orakei (76)	10.3	76	5	$ 2,768	2	0.6645	2	4.11	0	0	8	1
7	Glen Innes to Panmure	4.2	74	5	$ 1,719	1	0.6445	1	15.01	2	0	6	1
20	Henderson - Lincoln Road	4.9	14	5	$ 1,316	1	0.6426	1	10.75	1	1	6	1
21	Henderson - Westgate	8.3	12	5	$ 1,196	0	0.5855	0	13.56	2	3	2	0
10	Papatoetoe Station - Mangere East	3.2	31, 36	5	$ 1,303	1	0.6331	1	13.35	2	0	8	1
18	Fruitvale - Glen Eden - Sunnyvale - Henderson	9.3	15	4	$ 1,269	1	0.6151	1	9.95	1	1	5	0
58	Mairangi Bay to Browns Bay	4.4	83	4	$ 1,926	2	0.6128	0	10.25	1	0	6	1
29	Onehunga - Avondale (67)	9.0	67	4	$ 2,117	2	0.6508	1	6.93	1	0	4	0
35	Onehunga - Sylvia Park - Otahuhu	8.9	67	5	$ 1,549	1	0.5629	0	6.77	1	1	10	2
61	Otara Road Loop	2.1	37	4	$ 798	0	0.5977	0	15.14	3	0	6	1
13	Papakura - Drury	5.4	40	4	$ 1,000	0	0.5720	0	11.61	1	3	3	0
52	Rosebank Road to Avondale	4.6	22	4	$ 1,881	2	0.5639	0	0.54	0	0	10	2
4	Papatoetoe (old and new) to Manukau	9.9	36	4	$ 1,627	1	0.6610	2	6.57	0	1	4	0
31	New Lynn to Glen Eden (via Titirangi)	8.3	17	3	$ 1,041	0	0.5867	0	11.21	1	1	6	1
16	Te Atatu South - Te Atatu Peninsula	9.8	13	3	$ 1,752	1	0.6075	0	5.36	0	0	10	2
5	Burswood - Highbrook - Manukau	10.5	37	2	$ 999	0	0.5702	0	4.99	0	1	6	1
14	Drury Centre - Waihoehoe - Drury East	6.2	N/A	2		0		0	8.44	1	1		0
32	Homai - Clendon - Manurewa	7.5	39	2	$ 1,106	0	0.6337	1	6.99	1	0	3	0
34	Mangere East - Mangere - Onehunga	11.9	36	2	$ 1,190	0	0.6147	1	4.40	0	0	8	1
53	Westgate to Constellation (Upper Harbour)	14.9	12	2	$ 1,538	1	0.5597	0	4.21	0	1	4	0
33	Te Mahia - Clendon - Puhinui Rd	8.8	37	1	$ 1,159	0	0.6140	1	1.41	0	0	3	0
69	Waiheke	11.0	50	1		0	0.4699	0	0.00	0	0	6	1
19	Airport - Mangere - Mangere East	10.3	38	0	$ 1,112	0	0.6121	0	4.11	0	0	4	0
15	Drury Auranga - Waipupuke	6.2	40	0	$ 1,102	0	0.4116	0	2.03	0	0	3	0
67	Paerata	6.0	42	0	$ 443	0	0.1966	0	1.66	0	0	3	0
68	Whangaparoa	13.0	99	0	$ 1,123	0	0.5591	0	3.27	0	0	5	0
	TOTALS	**439.1**			**$ 142,356**		**44.0502**		**821.13**				
	AVG - MEAN	**6.4**			**$ 2,157**		**0.6478**		**11.90**			**9.5**	
	AVG MEDIAN	**5.5**			**$ 1,761**		**0.6565**		**11.83**			**8.0**	
	MAX	**17.3**			**$ 6,198**		**0.8004**		**39.47**			**30**	
	MIN	**1.5**			**$ 443**		**0.1966**		**-**			**2**	
	QUARTILE 1 (25th percentile)	**4.4**			**$ 1,198**		**0.6130**		**6.57**			**5.75**	
	QUARTILE 2 (50th percentile)	**5.5**			**$ 1,761**		**0.6565**		**11.83**			**8**	
	QUARTILE 3 (75th percentile)	**8.8**			**$ 2,949**		**0.6992**		**15.01**			**12**	

Criteria

1. Residential Land Demand (Median):
Reflects the median residential land value per metre squared, per corridor. Data provided by the Chief Economists Unit.

2. Accessibility Score (FUA Median):
Reflects the median score from the Framework for Urban Access model for each corridor. Data provided by the Strategist Unit.

3. Sum of Centres along Route (normalised by length):
Reflects the total number and hierarchy of centres which occur along the length of a corridor. The centres were allocated a weighting based on their typology as follows: 0.25 = Neighbourhood Centre, 1 = Local Centre, 3 = Town Centre, 5 = Metropolitan Centre.

The weighted sum of all centres along a corridor was calculated, then normalised by the corridor length (in metres). The value is then multiplied by 10,000 to provide a more legible and comparable value for scoring.

Column "M" Value = 10,000 × (Sum of Centre Weights ÷ Corridor Length in metres)

4. Strategic connection:
Reflects the total number of Metropolitan Centres along each corridor (1 point for each MC); where a metropolitan centre to metropolitan connection occurs (1 point for MC to MC connection); plus the presence of city centre along a corridor (1 point for CC).

5. Bus Frequency (Busiest VPH.median):
This criterion reflects the bus frequency along each corridor expressed as a median of the busiest direction during peak hours. Uses bus frequency data provided from Auckland Transport for the post-CRL network, in the AM peak from 07:00 - 09:00.

Weighting
All criteria are weighted equally (20%).

Scoring
Scoring of 0, 1, 2 or 3 was allocated for each criterion as follows:

0 = "value" less than or equal to Quartile 1
1 = "value" less than or equal to Quartile 2
2 = "value" less than or equal to Quartile 3
3 = "value" greater than Quartile 3

The exception to this is Criterion 4, which is a sum of all Criterion 4 values for each corridor:

Criterion 4 Score = total number of Metropolitan Centres + Metropolitan Centre to Metropolitan Centres Connection + Presence of City centre)

Overall MCA score
The overall MCA score for each corridor is the sum of the scores from all five criteria.

Appendix 19

Potential implications of larger walkable catchment extents

The Implications of Increasing the extent of 'Walkable Catchments'

Situation

There have been a number of suggestions that provisions to enable housing intensification should be applied across larger areas of Auckland, in order to increase the numbers of walking trips by residents.

To assess this, Market Economics ('**ME**') have considered:

a. Peoples' propensity to walk by trip distance. This is to take into account that propensity to walk decreases as trip distance increases (people are more willing to walk short distances than longer distances);
b. The level of demand for additional housing capacity, and whether increasing the size of intensification areas would result in more growth, or just a re-distribution of that growth;
c. From this, the expected total incidence of walking trips, allowing for different patterns of intensification around centres. This is the indicator of Catchment Walkability.

First, walkability is determined by distance. This means the walkability of any catchment derives from the number of people in that catchment, at each distance from the centre, with their mean number of walking trips determined mainly by that distance. Simply, if a catchment population is relatively concentrated near to a centre, then their number of walking trips will be greater than if the same population was distributed *pro rata* across the catchment.

As a consequence, increasing the diameter of an intensification area will not increase peoples' propensity to walk unless that also means that catchment attracts a larger share of the population. Otherwise, if it is just the same amount of housing growth and it is spread more widely, then overall walkability will be less, because a greater share of the population will live further from a centre. The mean number of walking trips per household can be expected to be lower than if intensification is more focused around the centre. On this basis, a Walkable Catchment of 400m radius can be expected to generate more walking trips *per capita* than a radius of 800m, and a radius of 800m to generate more *per capita* than a radius of 1,200m.

Second, the number of trips attracted to a centre – for employment, shopping, services or other purposes – is positively related to the size of the centre and the range of activity there. A large multi-faceted centre will attract more visits – by any mode – than a small centre offering fewer services. A larger centre also offers greater potential for people to make multi-purpose visits. One effect of this is that people can be expected to walk further for a multi-purpose visit than for a single-purpose visit – simply, the required walking effort per benefit acquired is less for a multi-purpose visit. One important implication is that a CBD or very large centre would have a broader walkable catchment than a smaller centre or node.

Third, a key matter is that the amount of plan-enabled capacity for housing is far greater than the anticipated demand for housing into the long term. This means that enabling intensification across wider areas around centres will not be expected to increase the total amount of housing development. Rather, increasing the opportunity to intensify will mean that same or similar amount of growth will occur over a wider area.

Analysis

ME have examined the potential to provide more plan-enabled housing capacity in an already urbanised area around a centre. This has been done on the Auckland central isthmus, in order

to cover an area which can be circular in shape, and not impacted by coastline, maunga, or other irregularities. We note that the results are not sensitive to the example, as the distance and plan enablement are similar to other parts of urban Auckland.

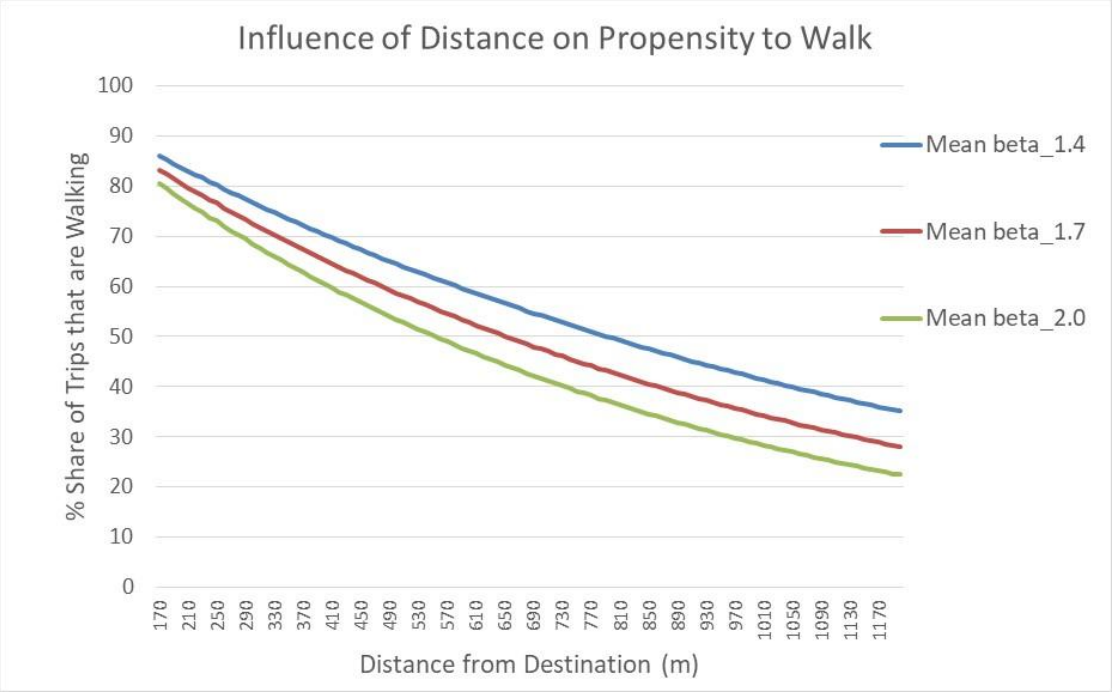
The analysis simply tests the likely propensity to walk of a given resident population – existing and growth – under different intensification outcomes. In each case, the resident population and household count is assumed to double. The intensification outcomes are as follows:

1. Outcome 1 - Growth is spread *pro rata* across the 1,200m Walkable Catchment
2. Outcome 2 - The same amount of growth is concentrated into the closest 800m distance band around the centre
3. Outcome 3 - The same amount of growth is concentrated into the closest 400m distance band around the centre

In all cases, there is plenty of plan-enabled capacity to accommodate the growth, so that the only matter being compared is the distribution of that housing, and the consequences for the number of walking trips. The growth outcomes were examined to estimate the numbers of dwellings within each 10m distance band around the centre and estimate propensity to walk on that basis.

The propensity to walk for trips of each distance was estimated from research into walking purpose by demographics in the United States[1]. For walking journeys in urban environments, the research found general *beta* coefficients of 1.7 for work trips, 1.27 for recreational trips, and 1.96 for shopping and social trips. We utilised the 1.7 coefficient as the mean value and beta values of 2.0 and 1.4 as simplified upper and lower bounds. These patterns are shown in Figure 1.

Figure 1 – Influence of Trip Distance on Propensity to Walk



[1] Yang, Y., & Diez-Roux, A. V. (2012). Walking distance by trip purpose and population subgroups. *American journal of preventive medicine*, *43*(1), 11-19.

As the final step, assuming a constant level of trip-making per household, the number of walking trips was estimated according to these propensities.

Findings

The main finding is that increasing the size of Walkable Catchments – intensification areas – around centres is very unlikely to increase catchment walkability.

Figure 2 summarises the results. Key findings are based on comparing catchment walkability (mean trips per household) within a 1200 m radius, under different growth outcomes. In each case, the existing population base is assumed to stay the same, with only growth distributed differently.

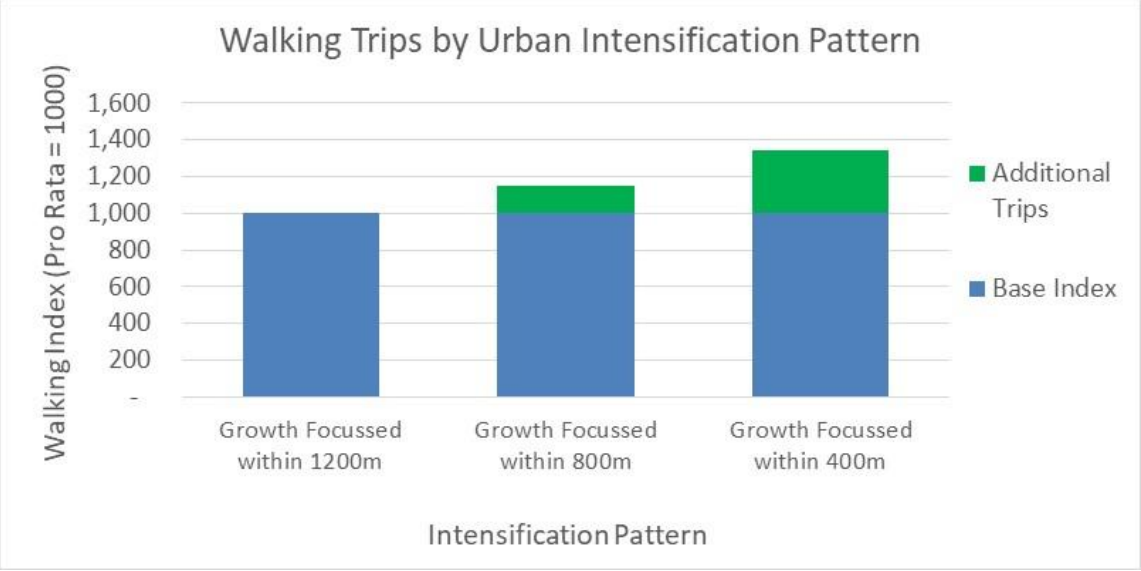
Catchment walkability is estimated for the total population – existing and growth – in each case.

The analysis shows:

a. Assuming the same level of intensification within 800m as would otherwise occur within 1200m, the mean propensity to walk (per household) would be 17-18% higher than if the same growth were distributed *pro rata*.

b. If the same level of intensification occurred within 400m, then mean propensity to walk (per household) would be 39-41% higher than if the growth occurred *pro rata* across the 1,200m catchment.

Figure 2 – Influence of Urban Intensification Patterns on Walking Trips



Importantly, the analysis examined the same number of households in each case, just with different patterns of intensification. The results indicate that focusing intensification more closely around centres will result in greater levels of walking trips, in the range of 17-40%.

This finding is fully expected, given that peoples' propensity to walk is directly affected by trip distance.

One implication is that increasing the radius of a notional ‘Walkable Catchment’ is likely to be counter-productive in terms of the amount of walking undertaken by the community if that means the same overall housing intensification is simply distributed more widely.

The same pattern is evident for larger catchments, for example a 1200m walkable catchment would indicate greater overall walkability than a 1,600m radius catchment. As noted, however, the overall number of trips made and walking trips made, is directly related to the size of the centre. On that basis, the walkable catchment for a CBD would be larger than for a centre lower in the centres hierarchy, and for catchments for transport nodes.

Douglas Fairgray

8 August 2022.

Appendix 20

Summary of literature on walkable catchments

Overview of the reviewed literature on walkable catchments

This appendix sets out short summaries that give an overview of the reviewed literature on walkable catchments. Part 1 focuses on walking in relation to public transport while Part 2 focuses on walking in relation to centres (or more generically retail, work etc). There is of course overlap between the two parts as some literature covers both walking in relation to public transport and centres (as well as other destinations). The full references are included at the end of this Appendix.

Part 1: Walking in relation to public transport

1. Active-transport walking behavior: destinations, durations, distances

(Millward et al., 2013) – Halifax, Canada

The authors analysed walking behaviour with a focus on active-transport (AT), as opposed to walking for leisure/recreation. AT walks were found to be moderately faster than recreational walking, and typically shorter in (i) time and (ii) duration.

The authors found that **the majority of AT walks by individuals were within 600m**. **Very few surpassed 1200m** (p. 108). This is referred to as a 'distance-decay' effect. A strong distance-decay relationship was found for *all* major destinations: *home, workplace, bus stop or ferry terminal, restaurant or bar, someone else's home, grocery store, retail, shopping centre or mall, outdoors away from home, bank, and school.* The median duration of AT walks was **six minutes** (p. 103).

Origins & destinations of walks:

Importantly, the authors note the diversity in origins and destinations of AT walks – not limited to only home and work. Nevertheless, they were the most common. The foremost origins/destinations were ranked: (p. 106)

1. Home
2. Workplace
3. **Bus stop or ferry terminal**

Purpose of walks:

In terms of AT walking purposes – travel-to-shop exceeded travel-to-work (p. 101, 107).

2. Case Study: Relationship of Walk Access Distance to Transit with Service, Travel, and Personal Characteristics

(Alshalalfah & Shalaby, 2007) – Toronto, Canada

The study examined the relationship of 'access walk distances' with: (i) personal characteristics *(socio-economic, demographic)* and (ii) transit-service characteristics *(household location, route frequency, etc.).*

In particular, the authors found that public transit (PT) users **will walk further distances for access to subway lines than to bus routes.** The median distance that users are willing to walk (for the two options) is estimated with a difference of 100m (p. 118).

At the time of the study, the Toronto Transit Commission (TTC) implemented a 300m distance for "defining the boundary of a transit route's service area" (p. 114). However, the study found that 86% of transit users live **within 500m** of respective transit routes (p. 115), while only 69% live within 300m. This was interpreted to indicate transit users are willing to walk *further* distances than TTC originally hypothesized with a 300m transit-route service area.

Additionally, the study found **higher-frequency routes "attract more riders, and have larger catchment areas** than lower-frequency routes" (p. 118).

3. Distances people walk for transport

(Burke & Brown, 2007) – Brisbane, Australia

Individuals are willing to walk to various locations, but for limited distances. The study found the following distributions of walking distances overall: *(p. 16)*

Journey	**Median**	**85th percentile**
Walk from home to all other places	**780 m**	**1450 m**
Walk from home to all public transport stops	**600 m**	**1300 m**
Walk from public transport stops to end destinations	**470 m**	**1090 m**

As depicted in the table, individuals tend to walk longer distances for 'single-mode trips' (walks directly to destination) than for 'walk trip stages' (made to or from public transit). However, the study found that 'walk trip stages' (to/from PT) were over **double in frequency** compared to 'single-mode walk trips.'

The table above depicts the overall figures. A more detailed version is below:

Walk from home to other places: *(p. 21)*

Journey	**Median**	**85th percentile**
Home to shop	680 m	1240 m
Home to primary school	790 m	1340 m
Home to usual workplace	1004 m	1850 m

Walk from home to public transport stops: *(p. 22)*

Journey	**Median**	**85th percentile**
Home to bus stop	440 m	1070 m
Home to ferry terminal	890 m	1540 m
Home to train station	890 m	1570 m

Walk from public transport stops to end destinations*: (p. 23)*

Journey	Median	85th percentile
From bus stop to destination	330 m	850 m
From ferry terminal to destination	830 m	1280 m
From train station to destination	620 m	1320 m

4. Explaining walking distance to public transport: The dominance of public transport supply

(Daniels & Mulley, 2013) – Sydney, Australia

The *mode* of public transit walked to is the primary determinant of walking distance from home to public transit. PT by train was interpreted as preferrable over bus, indicated by walking choices made.

Overall, **individuals walked further from home to access train services**, compared to bus services. This is despite a much higher distribution of bus stops than train stations. The authors note that *"people have to walk farther to reach one of the 300 train stations than to reach one of the 35,000 bus stops"* (p. 14) – likely passing by a bus stop and intentionally forgoing it on the way.

Sydney's planning guidelines aim to ensure 90% of households live within a 400m distance to PT services (train or bus) during daytime. The authors believe their study supports other research findings that individuals will walk distances **exceeding 400m** to access PT, *if* they decide to walk.

5. Forecasting Transit Walk Accessibility: A Regression Model Alternative to the Buffer Method

(Zhao et al., 2003) – Southeast Florida

The study focuses on weaknesses of the 'GIS buffer method' typically used for calculating transit walk accessibility. It is often employed by councils, such as assuming a 0.25 mile (or 400m) buffer area as 'walkable'.

Though simple, this method does not account for natural or man-made barriers in the actual urban fabric (e.g. steep slopes, highways with insubstantial access, fences); and discounts their implications. Further, it assumes 'straight' walking lines, despite the crookedness of streets in reality – meaning actual walking distances are often underestimated.

The authors find that walking accessibility is overestimated when using the buffer method (as well as the network method). They propose using a 'regression model instead, for measuring accessibility.

The dependant variable = % of population in a zone served by transit.

Potential independent variables = include the following:

- number of households per acre in a zone
- number of residents per acre in a zone
- ratio of commercial employees to total zonal employees
- ratio of service employees to total zonal employees
- bus route density in feet per acre

- number of internal streets intersecting the boundary of a travel analysis zone.

The authors find that a regression model has higher predictive potential in measuring walk-accessibility (compared to the buffer method), as they can consider additional factors (including barriers & population distribution).

6. How Does Car Parking Availability and Public Transport Accessibility Influence Work-Related Travel Behaviors?

(Badland et al., 2010) – North Shore, Auckland

The study examined the travel behaviours & choices of NZ working adults.

Of the eligible participant pool that matched all study requirements *(in paid work, routinely travelled to work by public or private motorized transportation & had a single work destination)*, 12.1% were found to routinely commute to and/or from work via PT, for at least a portion of their travel.

In particular, proximity to PT stops and perceived accessibility were factors influencing PT choices.

Higher PT usage was observed in individuals who lived within 200m of a bus stop, and in those who viewed PT as accessible. In contrast, lower levels of usage were observed when on-site parking or a company car was available to the worker. The implication is that work-related travel choices are **strongly related to convenience and accessibility**, as interpreted by the authors.

7. How Far, By Which Route, and Why? A Spatial Analysis of Pedestrian Preference

(Agrawal et al., 2008) – Portland & San Francisco

The research employed a participant pool of 328 pedestrians, via a one-off survey. It found that **0.5 miles (~800m)** was the average distance individuals were willing to walk, to access a rail station.

The factor of **distance** was most significant to the individuals' choice of **walking route**. This was supported by the following survey findings:

- Participants were asked: *'What are the main reasons why you chose your route today'* with space for three answers. **52% listed the 'shortest or fastest route' *first,*** to justify their chosen route. This was also the most frequent answer by far; mentioned by almost two-thirds of all participants.

- Additionally, 9% of respondent mentioned 'convenience' – which the authors considered a similar expression.

- 82% of participants rated 'choosing the shortest route' as *very important*; a further 17% rated it *somewhat important*.

Additionally, this study found that the distances pedestrians will walk to train services may be further than previous studies report (e.g. O'Sullivan & Morrall, 1996). Previously, walkable

distances were typically assumed at under 0.5 miles (~800m). **Here, half of respondents reported walking 'at least' 800m to their local train stations.**

The finding suggests that planners may consider further walking distances to train stations as feasible, compared to previous assumptions.

8. New evidence on walking distances to transit stops: Identifying redundancies and gaps using variable service areas

(El-Geneidy et al., 2014) – Montreal, Canada

Commonly, public transit agencies employ buffer zones of 400m around bus stops, and 800m around rail stations – to determine areas accessible by foot to PT services (p. 193). The study suggests that the status quo buffer distances "underestimate the effective service areas around transit stations" (p 208).

Through an analysis of 16,014 home-based transit trips, (established via Montreal's five-year Origin-Destination (OD) survey), the study found the following distributions of walking distances:

Journey from home to:	**85th percentile:**
Bus stop	524 m
Rail station	1259 m

Evidently, the 85th percentile of *walks from home to transit stations* is **greater** than the general rule of thumb (400m & 800m respectively). The findings support a revision of the status quo.

Additionally, the study finds that individuals are willing to walk further distances for routes which provide a **shorter wait time** (p. 208).

9. Improving the cost-benefit analysis of integrated PT, walking and cycling

(Wedderburn, 2013) – NZ

This report (90 pages) is based on walking, cycling and public transit. It evaluates factors which may impact and/or enhance the prevalence levels of these travel modes.

In terms of walking, the report drew on research by Ministry of Transport's *NZ Household Travel Survey*, which **indicated lower walking distances** to and from PT services in NZ, when compared to international findings (p. 9, 35).

The median distance of walks to *bus services* was 200m; and 75% of these trips under 500m (p. 35). This is lower than the typical 400-800m distances reported internationally.

However, figures for walks to ***rail services*** were notably higher; and aligned closer to international examples. The median distance walked for access to rail stations was over 1km (mean distance: 1.13km) – (p. 35).

These figures indicate that individuals are **willing to walk longer distances to faster PT modes** (such as rail or ferry services – to which further walking distances by individuals were observed, p. 9). This is consistent with existing findings in literature.

10. Walking Distances to and from Light-Rail Transit Stations

(O'Sullivan & Morrall, 1996) – Calgary, Canada

The study develops a quantifiable rationale for 'accessible' walking distances. It is based on the interview results of 1800 light-rail transit users during peak hours: for 23 out of 31 stations in Calgary.

It found the following results, for distances walked to transit stations:

Station	Average	75th percentile
Suburban stations	649 m	840 m
CBD stations	326 m	419 m

- Walking distances to local stations in suburban areas were **approximately double** that for central stations.

- In comparing the results to that of bus stops, the authors noted that **people generally walk much further to access a light-rail station**. Thus, a distinction in walking distance guidelines for each should be established.

It may be noted that the study utilized 'assumed walking paths' – derived from interview information of 'approximate origins.' The authors then transferred this info to a *1:4000 scale* map. The assumed path was the shortest sidewalk route that could be used to access the station. Some cases used shortcuts, such as through back alleys, for parts of the trip in lieu of the sidewalk alternative.

11. Rail Access Modes and Catchment Areas for the BART System

(Cervevo et al., 1995) – San Francisco

The paper examines the impact of the built environment on: (1) transit modes to & from train stations; and (2) the sizes and shapes of the ridership catchment areas.

It is based on the foundational assumption that lowered densities and increased distances to city centres correlate with increased reliance on *motorized travel*, in order to reach train stations.

The study found that **density has a substantive influence on the modal choice of individuals**, when accessing train stations. Land-use mixture was also found as influential, but to a lesser degree.

Overall, **more dense, mixed-use areas** saw higher proportions of walking-trips for train station access.

These areas also saw **acceptability of *further* walking distances**:

> (i) acceptable walking access (home-end) distances increases by 200-300 feet (~ 60-90 m) – p. 47.
>
> (ii) acceptable walking egress (work-end) distances increases by 200-600 feet (~ 60-180 m) – p. 47.

Evidently, people are willing to walk further at the egress/work-end, than the access/home-end. It indicates that people prefer walking from the station to work, rather than wait for a bus service, if they can do so within 5-10 mins (p. 48).

See table below (copied – p. 47) for detailed figures:

Table 17. Summary on Influence of Distance on Modes of Access and Egress Among Classes of BART Stations

Station Class	Distance up to which Walking Predominates: Home-End Access	Distance up to which Walking Predominates: Work-End Egress	Mode of Access Beyond Walking Distance: Dominant	Mode of Access Beyond Walking Distance: Secondary	Mode of Egress Beyond Walking Distance: Dominant	Mode of Egress Beyond Walking Distance: Secondary
San Francisco Office Center	3,000 ft.	4,000 ft.	Transit	—	Transit	—
San Francisco Commercial/ Civic Center	4,000 ft.	3,300 ft.	Transit	Kiss-n-ride	Transit	—
Downtown Oakland	3,800 ft.	3,600 ft.	Transit	Kiss-n-ride	Transit	—
Urban Drive-alone/ Districts	3,300 ft.	3,600 ft.	Transit	Kiss-n-ride	Transit	Bicycle
Suburban Centers	Park 2,700 ft.	Kiss-n-ride/ 3,300 ft.	n-Ride	Passenger Transit	Transit	Pick-up
Low-Density Areas	Park- 2,900 ft.	Transit/ 2,900 ft.	Passenger n-Ride	Kiss-n-ride	Transit	Pick-up

From this table, the mean walking distances are:

- 3283 ft **(1,001 m)** for access walks
- 3450 ft **(1,052 m)** for egress walks.

12. Impediments to Walking as a Mode Choice

(Walton & Sunseri, 2007) – NZ

This study is primarily concerned with 'park-and-ride' commuters who drive to PT stations, park their car, then ride the PT service. The study attempts to uncover why these commuters choose car usage, rather than walking to the station.

Research is conducted mainly through a survey measuring *attitudes to walking* of 'park-and-ride' commuters living within 1km of the station; compared to that of walkers to the station.

Notably, the study found that people perceive a **'reasonable' walking distance to be approximately 820m (p. 34); roughly 9-10 minutes in duration.** The majority of participants lived within this travel distance.

However, the authors interpret that: (i) convenience offered by the station's car parking facility & (ii) the availability of a private vehicle – are likely to evoke car usage by individuals **'who might *otherwise* walk 1 km to the station'** (p. 33). This comes down to a matter of preference, where the alternative (of park-and-ride) is simply perceived as better or more advantageous/convenient than walking.

Thus, the study encourages the disincentivization of 'park-and-ride' trips; to enhance choices made to walk. Mechanisms may include fee-paying parking or reductions in parking convenience.

13. Travel and the Built Environment

(Ewing & Cervero, 2010)

The authors employ a meta-analysis, examining existing studies on the urban environment and their impacts on transit modes. Influences were measured by the elasticity of various modes in response to different variables.

Interestingly, the study finds that 'density' itself is weakly associated with travel. The authors interpret this to suggest that "density is an intermediate variable that is *often expressed by the other D's*" (p. 276) – including short blocks, mixed usage, and central localities. (5 D's = Density, Diversity, Design, Destination accessibility, Distance to transit)

Results found that walking is mostly associated with:

- land use diversity
- intersection density
- the quantity of destinations within walking distance (p. 265).

In particular, **destination accessibility** had the largest influence on non-motorized travel such as walking (p. 276).

Also of note:

- *Jobs-housing balance* was more strongly correlated to walking than *land-use mix*
- *Population density* was more strongly correlated to walking than *job density*

14. Does Compact Development Make People Drive Less?

(Stevens, 2017)

Stevens (2017) finds through meta-regression analysis that compact development indeed makes people drive less – but *not by much*. As this influence is limited, he discourages planners from depending solely on compact development, as the mechanism for reducing private motorization.

Nevertheless, his results yielded a negative statistical correlation between driving and compact development features. Notable variables were ranked by their extent of influence on driving, in the following order from highest to lowest (p. 14) –

1. Distance to downtown
2. Population density
3. Job accessibility by auto
4. Intersection and street density
5. Land use mix
6. Job density

The most strongly-influential variable on driving was the *distance to downtown*. With every 1% decrease in distance from household to downtown, driving decreases by 0.63%.

People also drive moderately less in areas of **higher street-connectivity** (expressed through intersection & street density) – as **"feasibility and convenience of walking" transpires** (p. 14).

Note: Stevens also acknowledged that some discrepancies exist in the results of differing studies on compact development and driving. He considered three likely causes (p. 4):

1) Sampling errors
2) Differences in study controls – (some studies control for residential self-selection, some do not; leading to inconsistency).
3) Selective reporting – (which may skew results or lead to inconsistencies)

15. "Does Compact Development Make People Drive Less?" The Answer Is Yes.

(Ewing & Cervero, 2017)

This paper is a commentary on the previous article (above) by Stevens (2017). It compares his findings to the authors' own (reading no. 13.)

Here, the authors note that they are measuring essentially the same issue as Stevens (elasticies of *vehicle miles travelled* – VMT); yet the two studies come to different results, characterizations, and conclusions.

The main questions and issues raised are as follows:

- **Does Stevens draw appropriate conclusions from his findings?** The authors believe Stevens overreached in his conclusion that compact development has 'not much' influence on driving. They do not believe this is consistent with their findings, or his own (which found a negative statistical correlation).

- **Does Stevens appropriately categorize our results and his results?** The authors believe Stevens incorrectly categorized the results. They regard statistic 'inelasticity' to mean differently from a 'small' relationship – the latter term expressed by Stevens. In other words, inelasticity does not necessarily mean an influence is small; it is relative.

- **Does Stevens appropriately depict the costs & benefits associated with compact development?** While Stevens' article may suggest that reduced driving is the sole benefit of compact development, the authors believe there are extensive interests beyond that. They are unsatisfied with Stevens' singular and brief acknowledgement of further benefits.

- **Does Stevens appropriately categorize his meta-regression analysis as more rigorous than our meta-analysis?** The authors disagree with this depiction for various reasons; including that only 37 studies were included in Stevens' final sample.

16. Urban Densities and Transit: A Multi-dimensional Perspective

(Cervero & Guerra, 2011) – U.S.

The study examines the relationship between transit and urban densities, in cities across the U.S.

The main conclusions of the study were that light-rail and heavy-rail systems require the following densities, to be categorized as the top 25% of cost-effective rail investments: (p. 10)

- 30 people per gross acre around light-rail stations
- 45 people per gross acre around heavy-rail stations

Further, ridership increases would be significant particularly with job concentration within 0.25 miles (~400m) of a station, and housing concentration within 0.5 miles of a station (~800m).

As part of its analysis, the study addressed **station catchment areas**. The authors referenced the findings of O'Sullivan and Morrall (1996) that transit walking distances were suggested at 300-900m.

Their own findings, however, reported walking distance as 'largely irrelevant' to their method of *direct demand modelling*. Nevertheless, they note that the *most* appropriate models applied were the:

- 0.25 mile (~400m) radius for job counts
- 0.5 mile to 0.75 mile radii (~800 – 1200m) for population counts.

The authors interpret this as support for respectively employing a 0.25 mile catchment area for jobs, and a 0.5 mile catchment for population (p. 10).

17. Varying influences of the built environment on household travel in 15 diverse regions of the United States.

(Ewing et al., 2015) – U.S.

The study predicts 5 household travel outcomes (car trips, walk trips, bike trips, transit trips and vehicle miles travelled); using built environment variables. In terms of walk trips, the following factors are associated with **increased (walk-trip) likelihood** (p. 2340):

- Land use diversity – [within 0.25 mile of home]
- Intersection density – [within 0.5 mile of home]
- Activity density & percentage of 4-way intersections – [within 1 mile of home]
- Accessibility to employment – [within 30 minutes by transit]
- **Transit stop density** – [within 0.5 mile of home]
- Regional compactness

The authors note an interesting finding that: "walk trip frequency depends on the built environment *at a larger scale* than the usual one-quarter mile (~400m) walk distance assumed by planners" (p. 2341).

They suggest the **relevant environmental scale** to walk trips is roughly 0.5 to 1 mile (~ 800 to 1600 m).

- This is indicated by the U.S.'s *Nationwide Household Travel Survey*. It reports an average walk trip distance of 0.52 miles for shopping, and 0.88 miles for work; with an overall average of 0.70 miles.

18. Exploring built environment impacts on transit use – an updated meta-analysis.

(Aston, 2020)

This is a more recent meta-analysis of research; consisting of 418 data points, integrated from 89 published studies. It is an updated study from Ewing & Cervero's meta-analysis in 2010 *(no. 13)* and Stevens' meta-regression analysis in 2017 *(no. 14).*

Similarly, it considers the *impact of the built environment on transit usage.*

Elasticity of transit use was tested against 12 built environment factors. 3 factors were found insignificant to transit use: *activity density, population centrality, housing mix*. The remaining 9 variables had significant and positive impacts.

They were ranked, from highest to lowest, in elasticity impact on transit use (p. 85):

1. **Land use mix**
2. **Pedestrian connectivity**
3. **Jobs-housing balance**
4. Commercial density
5. Population density
6. Employment density
7. Safety
8. Local access
9. Amenity

The author's conclusion aligns with that of Stevens (2017); in that there is a "**small** but imprecise nature of the relationship between the built environment and transit use" (p. 92). However, the author also notes that various aspects of density, design, access, and diversity have notable contributions to public transit demands (p. 92).

19. Transit Capacity and Quality of Service Manual [Chapter 4]

(National Academies of Sciences, Engineering, and Medicine, 2013)

Transit services should be available within accessible walking distances from the origins and destinations of trips. Both ends of the trip must be considered – known as 'service coverage.'

The synthesized results of several 1960s-1980s studies indicate that:

- The majority of passengers (75-80%) walk up to 400m for bus services.
- Walking distances travelled to **rapid transit stations** are much further.
- Half (~50%) of passengers walk greater than 800m for RT services.

Other variables impacting walking distance or walkability include:

- Terrains: flatter land offers a more friendly pedestrian environment, while hilly routes require greater effort (or potentially stress) and are associated with shorter walking distances.
- Pedestrian safety: wide & busy streets deter pedestrians when there are inadequate crossing facilities.
- Street patterns: grid street layouts typically provide direct & easier access to transit services.
- Facilitation for disabled or diverse/universal needs.

20. Many Pathways from Land Use to Health: Associations between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality

(Frank et al., 2006) – Washington State

The study evaluates the relationship between walkability and health-related outcomes.

> Walkability was calculated by measures of: *land use mix, street connectivity, net residential density & retail floor ratios.*

Found: Those residing in more walkable neighbourhoods would walk more (and bike more), as modes of active transportation. Coincidentally, they also had lower BMI's, drove less, and contributed less air pollution than those residing in less walkable neighbourhoods.

A 5% increase in walkability was related to:

- 0.23-point decrease in BMI
- 6.5% decrease in vehicle miles travelled
- 5.6% decrease in nitrogen emitted; 5.5% decrease in volatile organic compounds emitted.

There was no relevant mention of attractive walking distances; only one vague reference of the mean distance to the nearest bus stop being 1/3 mile.

21. Contextualizing Walkability: Do Relationships Between Built Environments and Walking Vary by Socioeconomic Context?

(Adkins et al., 2017) – Review

There is generally consensus that supportive built environments are associated with higher levels of walking. This paper looks at whether the relationship varies when observed in different social groups: *the advantaged and disadvantaged.*

17 published articles were reviewed. It concluded that the relationship (between a supportive built environment for walking & higher walking rates) **was larger in advantaged groups** than in disadvantaged ones; by over two-fold. *Disadvantaged groups included: low-income and racial/ethnic minorities.*

In terms of **walking as active transport**, authors found that the 'built environment effect' produced the following:

- 70% more AT walking for disadvantaged groups
- 183% more AT walking for advantaged groups.

This conveys that the effect was **2.6 times stronger for advantaged groups** (p. 307).

The disparity is likely due to differing attributes of the *social* environment – wherein disadvantaged communities are more likely to experience fear of crime and lack of social support (p. 296, 310). The implication is that *"efforts by planners to further improve the built environment will likely not address underlying barriers to walking"* and may *"be at odds with more immediate community needs and priorities" (*p. 310). This represents a challenge to planners.

22. Pedestrian Access to Transit: Model of Walk Trips and Their Design and Urban Form Determinants Around Bay Area Rapid Transit Stations.

(Loutzenheiser, 1997) – San Francisco

Pedestrian access to the Bay Area Transit System (BART) is measured, through survey data from 34 BART stations. Nearly 34,000 responses were collected from the 13 suburban stations, 8 downtown stations & 13 urban-residential stations *(as of 1992).*

Notably, the results found that:

- Walking had –
  - A 23.7% mode share, for home-based access trips to BART stations.
  - Over 75% mode share, for home-based egress trips from BART stations.
  - The above figures are the overall. For individual stations, the walk access share varied from under 3% to 74%. This means there are numerous factors which influence the decision to walk.

- Distance is the most significant factor influencing the choice of walking.
  - Those living near a station were more likely to walk there.
  - **For every additional 0.5km from a station, the probability of walking is reduced by 50%** (p. 10).

- Retail is strong incentive for walking.
  - Retail-dominated stations were associated with high levels of walking (p. 8, 10).

23. Walkable catchments analysis at Auckland train and Northern Busway stations

(Wilson, 2013) – New Zealand

The study aims to elaborate on the findings from a 2010 survey by the (then) Auckland Regional Transport Authority. The 2010 survey found that the median walking distance to Papatoetoe train station was 1200m – further than the 800m radius typically assumed for walkable catchments.

In 2012, Auckland Council's surveys produced similar findings for New Lynn, Glenn Innes, and Mt Albert train stations. Notably, they found:

- Over 50% of respondents walked further than 800m to access train stations
- Over 15% of respondents walked further than 1500m to access train stations
- Walking is the most prevalent mode of travel for trips under 2000m in distance.

The 2013 study extended the research to a further 12 train stations[1] and 5 Northern Busway stations.[2] Again, the aim was to investigate **whether an 800m radius accurately represented the walking distance** of passengers to the respective stations. The results of the surveys were as follows:

For the 12 train stations:

- There was significant variation in **median walking distances** to each station.

[1] *Manurewa, Otahuhu. Panmure, Papakura, Newmarket, Henderson, Onehunga, Pukekohe, Glen Eden, Meadowbank, Sturges Road, Ellerslie.*
[2] *Albany, Constellation, Sunnynook, Smales Farm, Akoranga*

- Papakura had the highest (971 m); followed by Panmure (917 m).
- Newmarket had the lowest (446 m); followed by Ellerslie (569 m).

- To reach the station:
- At four stations: over 50% of respondents walked further than 800m
- At six stations: over 15% of respondents walked further than 1500m

- Walking was the most common **form of arrival** at nine out of 12 stations.
- This was measured by percentage (%) of respondents who walked to the station.
- Ellerslie had the highest (73%); followed by Newmarket (69%)
- Manurewa had the lowest (42%)

For the 5 bus stations:

- There was even greater variation in **median walking distances** to each station.
- Albany had the highest (2727 m).
- Smales Farm had the lowest (588 m); followed by Akoranga (590 m).

- To reach the station:
- At four of five stations, 50% of respondents **walked further than 800m**.
- The exception was Akoranga.

The 2013 study concluded that: The 800m catchment radius is representative of *some* stations, but for others, it is lower than the actual walking distance people are willing to walk. Evidently, there are cases where individuals will walk further than 800m to access train services.

Part 2: Walking in relation to centres (or more generically retail, work etc)

24. What Makes People Use the Street? Towards a Liveable Urban Environment in Kuala Lumpur City Centre

(Rahman et al., 2015) – Malaysia

The study examined factors influencing street usage. It was based around the study area of *Jalan Tunku Abdul Rahman (JTAR),* a main traditional street in the city centre of Kuala Lumphur, Malaysia.

It found five main factors which attract street usage by pedestrians. They are:

- attractions on the street
- activities on the street
- **proximity (commute distance)**
- congestion
- other supportive factors e.g. public space, trees, cleanliness…

In terms of proximity, the study revealed that distance to the street, from a pedestrian's home *and* from their workplace*, was significant in influence street usage.

The interview results showed that the majority of respondents walk around **1 km in distance** to the city-centre street. To them, this was perceived as a reasonable distance or 'not too far' for walking-transit purposes.

25. Beyond the Quarter Mile: Re-examining Travel Distances by Active Transportation.

(Larsen et al., 2010) – Montreal, Canada

The paper is based on the 2003 Montreal Origin-Destination Survey. Importantly, it focuses on walking trips where a second transit mode is not the intended destination (e.g. a rapid transit station).

The study finds that the overall **median walking distance** (as per the OD survey) **is 650m;** exceeding the general 400m catchment radius. Further, it found that for many trip purposes, the **85th percentile of walking distances exceeds 1000 m.** To elaborate:

Walking trip purpose	85th percentile (distance)
Overall	1,403 m
Work	1789 m
Shopping	1327 m
School	1243 m
Leisure	1572 m

The author notes – "the **85th percentile values** can be used in defining catchment areas around existing and new destinations" (p. 76).

26. Walking as a local transport modal choice in Adelaide

(Allan, 2001) – Adelaide, Australia

The author refers to the typical walking capacity of a 'normal healthy adult' as 6km/h. He considers that a walker would typically be able to maintain a speed of 6km/h for up to 20 minutes, before this rate declines from fatigue or other factors.

As such, he proposes that **a 20-min walk (i.e. 2km) is reasonable distance** in Australian urban environments (p. 39).

27. Myths and Realities in Walkable Catchments: The Case of Walking and Transit

(Ker & Ginn, 2003)

The authors refer to the study of Pikora (2003) – [could not access original source]; who found that **75% of survey respondents walked over 800m to access various destinations.** 48% of respondents reported walk trips to shops.

28. Permeability and interface catchment: measuring and mapping walkable access

(Pafka & Dovey, 2017)

The authors refer to the study of Gruen (1965) – [could not access original source]; who indicated **the average walking distance may be up to 1,500m** depending on the built environment (e.g. whether it is supportive of walking) and extent of protection against weather.

29. The relationship between cluster-analysis derived walkability and local recreational and transportation walking among Canadian adults.

(McCormack et al., 2012) – Calgary, Canada

The study investigates the relationship between neighbourhood walkability and walking rates in adults. Walkability is assessed on an objective scale, via a built environment profile.

The study employed a catchment area with a 1600m radius, **citing consistency with other studies** (Oliver et al., 2007) – p. 1081. This area was determined in this paper and others, as a suitable distance walked within 15 mins.

30. Identifying destination distances that support walking trips in local neighbourhoods

(Gunn et al., 2016) – Victoria, Australia

The study investigated the relationship between distance and walking trips to local food destinations (supermarkets, cafes, takeaway stores, small food stores, etc.). It tested the difference in walking levels between two 'donut buffers' of 401-800m, and 800-1200m.

It found that in local neighbourhoods, food destinations at distances between 401m – 800m were associated with higher levels of walking trips; compared to placements at distances of 800-1200m. This suggests that a closer proximity encourages greater walking prevalence.

31. Experimental research of pedestrian walking behavior

(Daamen &Hoogendoorn, 2003)

The article is concerned with designing for walking infrastructure (e.g. transfer stations or shopping malls, etc.), pedestrian behaviour and **transfer times** (i.e. time to move from one place to the next).

First, it recognizes that conventional design methods are based on rules of thumb – which consider passenger behaviour in **static situations** only. Many dynamic implications are unaccounted for, such as differences in passengers (e.g. elderly who may require longer transfer times).

To gain more accurate estimations of transfer time, the study integrates more detailed pedestrian flow data. The purpose is to better understand pedestrian flows at both microscopic and macroscopic levels.

It considers:

- Walking speed
- Collective behaviour and self-organisation (e.g. pedestrian flows in different directions self-separate into 'lanes')
- Walking behaviour and interaction

Notably, the study found:

- **Free speed *(speed as desired or when unhindered by other pedestrians)* was on, average, 1.58m/s.**
- In pedestrian bottleneck situations:
  - In free-flow conditions: pedestrians walk in the centre of the bottleneck; away from walls.
  - In capacity conditions: pedestrians self-separate into lanes and walk diagonally behind one another – to use the bottleneck space more efficiently.

32. Shaping neighbourhoods: A guide for health, sustainability and vitality.

(Barton et al., 2003)

Brief info found on: ***Comparative study of neighbourhood walkability to community facilities between two precincts in Putrajaya*** *– (Azmi et al., 2013).*

Azmi et al. (2013) referred to the works of **Barton et al. (2013).**

The latter indicated that the maximum walking distance and times typical of pedestrians, in order to access neighbourhood facilities and services, were as follows –

Community facilities/services	Maximum walking distance	Maximum walking time
▪ local shop ▪ bus stop	400 m	~ 5 min

Community facilities/services	Maximum walking distance	Maximum walking time
▪ nursery school ▪ primary school ▪ community facilities	600 m	~ 7 min
▪ local centre ▪ post office ▪ restaurant	800 m	~ 10 min
▪ secondary school	1000 m	~ 12 min
▪ district centre * ▪ superstore ▪ leisure centre	**2000 m**	**~ 25 min**

* district centre – potentially relevant to metropolitan centre or city centre catchment

33. The neighbourhood unit: How does Perry's concept apply to modern day planning?

(Olson, 2010) – webpage

This is a very brief webpage article. It focuses on Clarence Perry's 'Neighbourhood Unit' concept. Fundamentally, the concept employs a 5-minute walk rule, as the suitable walking distance from residential to non-residential areas of the neighbourhood.

Importantly, the design is based on the 'human factor' – all distances calculated were intended for the human foot rather than motorized transport. Walkability is a crucial attribute. Other key components of the design included: narrow streets, mixed usage & a max. 3-min walk to the local park.

34. Normal walking speed: Average human walking pace.

(Patricia, 2010) – webpage

This brief article conveys the diversity of walking capacity amongst individuals. It varies based on age, level of fitness, gender, height, weight, etc.

Generally, walking speed is approximately 3 to 4 miles **(4.8 to 6.4 km) an hour.** This most likely decreases with age, to roughly 2.5 to 3 miles **(4 to 4.8 km) an hour.**

35. Access to Destinations: How Close is Close Enough? Estimating Accurate Distance Decay Functions for Multiple Modes and Different Purposes.

(Iacono et al., 2008) – Twin Cities, U.S.

The study examines distance decay effects upon various transit modes, for various trip purposes. In terms of walking, the following relationship (distance/percentage of walking trips) was found:

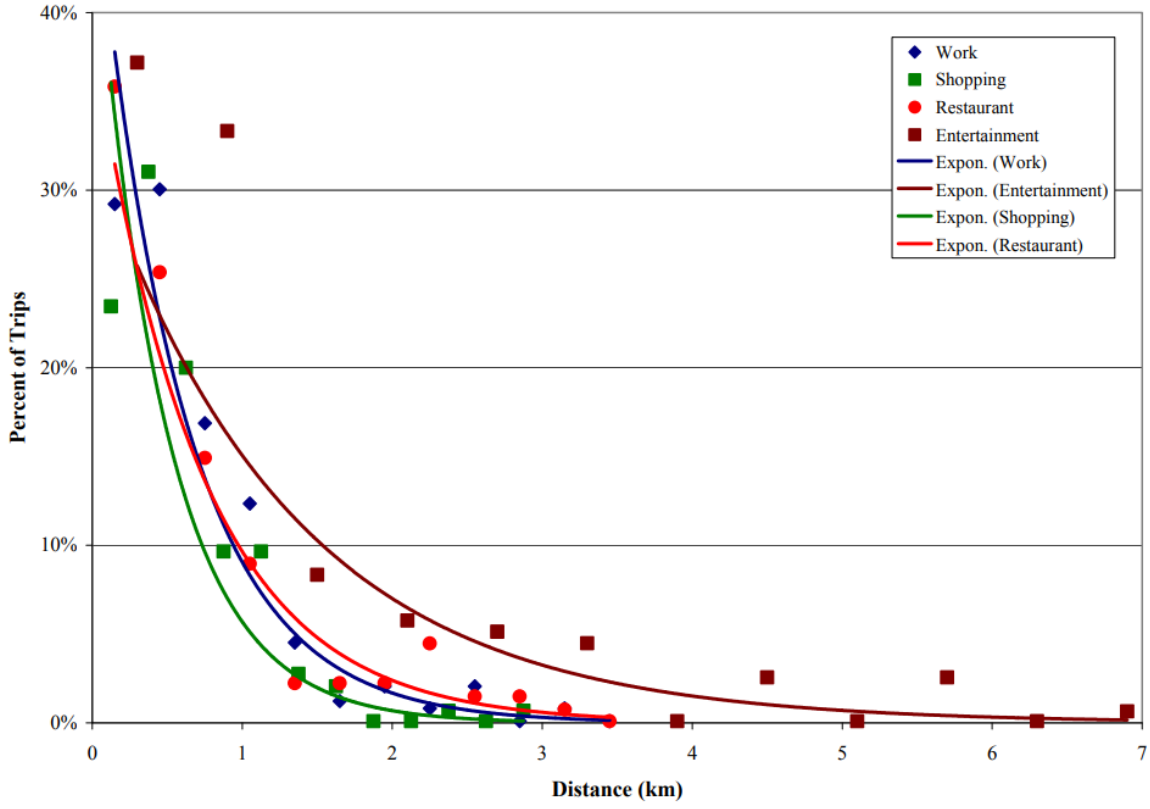


Figure 1. Distance Decay Curves for Walking Trips

Key points:

- Trips for work, shopping and restaurants are generally shorter than for entertainment (recreation).
- The majority of walk trips are under 3 km.
- A notable number of trips **reach or exceed 1km in distance**. This indicates that many pedestrians are prepared to walk much further than the general 400m radius assumed in planning. The consistency of the result across the trip purposes shows that this sentiment goes beyond recreational purposes; applying also to active transit walk trips.

- To further back this up, the authors calculated that **between 1/4 to 1/3 of pedestrian travel surpassed 400m** (p. 7).

36. The relationship between destination proximity, destination mix and physical activity behaviors

(McCormack et al., 2008) – Western Australia

The study assessed the relationships between destination proximity, destination mix and physical activity. In particular, it compared the effect of destinations within 400m versus 1500m, as the distance(s) from respondents' homes.

Results revealed that, **for purposes of active transport**, proximity and mix were strongly related to walking levels. Transport walking was strongly associated with:

- Access within 1500m to: schools, transit stations, shopping malls, convenience stores and news agencies.
- Access within 400m to: post boxes, bus stops, transit stations, shopping malls, convenience stores, news agencies.

In particular, the authors noted that for **less common destinations such as transit stations, a 1500m buffer is more appropriate** – due to the relative rarity of the destination, and the limited number of people who could access it within 400m.

37. Destination and route attributes associated with adults' walking: a review.

(Sugiyama et al., 2012) – Review

The paper synthesizes the findings of 46 articles on matters of utilitarian (active transport) walking and destination & route attributes.

Utilitarian walking corresponded to the presence & proximity of utilitarian destinations (shops, services, transit stops) – consistent across **80% of the studies reviewed.**

Though this paper confirmed the association with proximity, it did not offer a definitive measure on what was considered a walkable distance.

38. Associations of the perceived and objective neighborhood environment with physical activity and sedentary time in New Zealand adolescents.

(Hinckson et al., 2017) – Auckland & Wellington

The study aims to approximate the relationship between walkability components and physical activity & sedentary time. Data was collected from 524 individuals.

- Walkability components: include GIS-determined and perceived factors – i.e. objective & subjective.
- Physical activity: moderate-to-vigorous physical activity (MVTA)
- Sedentary time: (ST)

Objective (GIS-determined) factors:	**Subjective** (perceived) factors:
▪ gross residential density ▪ street intersection density ▪ cul-de-sac density ▪ transit stop density ▪ number of parks ▪ land use mix	▪ residential density ▪ land use mix – diversity ▪ land use mix – access ▪ street connectivity ▪ walking facilities ▪ aesthetics ▪ pedestrian/automobile traffic safety ▪ crime ▪ parking difficulty in local shopping areas ▪ physical barriers to walking ▪ hilly streets

Results (p. 144) found:

- very minor associations between **objective factors** and physical activity
- very minor associations between **objective factors** and sedentary time
- 3 of 11 **subjective factors** were significantly associated with physical activity *(land use mix – diversity, street connectivity, aesthetics): positively associated with MVTA.*
- 5 of 11 **subjective factors** were significantly associated with sedentary time *(land use mix – diversity, street connectivity, aesthetics, pedestrian/automobile traffic safety): negatively associated with ST; (physical barriers to walking): positively associated with ST.*

In conclusion, the study found that **subjective (perceived)** variables have greater relationships with physical activity and sedentary time; indicating a greater influence.

39. Built environment correlates of walking: a review.

(Saelens & Handy, 2008) – Review

The paper focuses on the association between built environmental variables and walking. It is a review of previous studies, including 13 other reviews. The 2008 review found that:

(i) Transportation and density, (ii) distance to non-residential destinations, and (iii) land use mix: have consistently positive associations with walking.

- Land use mix: means destinations are more proximal to users. Thus, the review considers that findings for this variable are consistent with that for accessibility.
- Density: is also considered as related to proximity, because higher density indicates more people to support various activities are located nearby; thus destinations to these activities are closer.

(i) Route/network connectivity, (ii) parks and open space, and (iii) personal safety: have more ambiguous relationships with walking.

Also noted:

- There were lesser findings for aesthetics, accessibility of physical activity facilities, and traffic (p. 7).
- There were minimal findings for children's walking.

40. Correlates of Walking for Transportation or Recreation Purposes.

(Lee & Moudon, 2006) – Seattle, U.S.

438 adults were surveyed, to determine the association of (i) objective and (ii) subjective environmental conditions with transportation walking versus recreational walking.

It found that:

- For transportation walkers, there is a significant relationship between walking and destination proximity. The closer respondents were to the destination (grocery store, restaurant, post-office or bank), the higher the likelihood of walking.

The following: *[Adapted from Saelens & Handy, 2008]*

- Individuals were more likely to be transportation walkers if:
  - they perceive the area as diverse in uses
  - the area has lower residential density
  - closer proximity to bank
  - further distance from [office & other land use] combinations

- Frequent transportation walkers:
  - have lesser slope in their route (flatter terrain)
  - closer to grocery store, restaurant, post office & bank
  - higher parcel density

- Moderate transportation walkers:
  - perceive the area as diverse in usage
  - routes are less direct to closest church
  - closer to bank

41. Linking objectively measured physical activity with objectively measured urban form: findings from SMARTRAQ.

(Frank et al., 2005) – Atlanta, U.S.

The study is focused on the relationship between urban form and physical activity; both in objective measures.

- Physical activity was measured by: an activity monitor.
- Urban form was measured by: residential density, street connectivity, land-use mix; determined by mathematical calculations to yield a walkability index.

It found that:

- There is indeed a positive association between the urban form and physical activity (at moderate intensity) in adults.

- *Moderate physical activity* [greater than 30 minutes, on a random day] is **more likely for individuals who live within close proximity to many destinations, & with direct pathways to those destination.**

- Individuals in the highest walkability quartile were 2.4 times more likely to engage in *moderate physical activity* than individuals in the lowest walkability quartile. (p. 117)

The findings indicate that policies facilitating more walkable urban forms (via residential density, street connectivity & land use mix) will promote walkability & public health.

42. Neighbourhood built environment and transport and leisure physical activity: findings using objective exposure and outcome measures in New Zealand.

(Witten et al., 2012) – New Zealand

The study examined the relationship between neighbourhood built environments (destination access, street connectivity, dwelling density, land-use mix and streetscape quality) and transport-related physical activity (self-reported and accelerometer-derived).

Walkability indexes were generated from the neighbourhood built elements and to GIS. The scores were then used to select 6 high and 6 low walkability study neighbourhoods per city.

Data was collected via a survey of 2033 adults, across 48 neighbourhoods of 4 cities. The results found that:

- Though over car access prevailed at 82.2%, a more walkable neighbourhood was favoured by 34.9% (the largest share) – p. 974.

- **Street connectivity, destination accessibility, and dwelling density**: were positively correlated to higher levels of physical activity (PA) – *self-reported and accelerometer-derived.*

- For these three factors, each increase in standard deviation (SD) generally led to a 7% increase in accelerometer-derived PA (p. 975).

    - Further, these three factors were highly correlated with one another. They were also correlated with neighbourhood-level deprivation (i.e. more deprived neighbourhoods observed higher dwelling density, etc.).

- The remaining two factors – streetscape and land-use mix: had lower associations with self-reported PA. The relationships were generally non-significant, or weak.

- For accelerometer-derived PA, land-use mix was related to a smaller but notable increase in activity (3-4%), for each SD increase.

43. Proximity to Trails and Retail: *Effects on Urban Cycling and Walking.*

(Krizek & Johnson, 2006) – Twin Cities, U.S.

The study investigates whether the presence of neighbourhood retail within walking distance would increase the likelihood of walking.

Neighbourhood retail establishments included:

- *Food and beverage stores*
- *Health and personal care stores*
- *Clothing and accessory stores*
- *Sorting goods, hobby, book and music stores*
- *General merchandise stores*
- *Miscellaneous stores*
- *Food services and drinking places*

Distances studied were categorized into the following:

- Less than 200 m
- 200 to 399 m
- 400 to 599 m
- 600 m or more

This allowed results to be compared between different distance groups. The results found that:

- Those **living within 200m of retail shops** were the only group with increased likelihood of walking (to a statistically-significant extent) – compared to those living 600m away or further. (p. 39).
- Further, the authors note that "the presence of children was the only household characteristic that had a significant influence" (p. 39).

From these results, the authors concluded that proximity to retail matters, as a factor influencing walking, but the relationship is not linear. Closer distances are of more significance, in impacting decisions to walk.

The authors believe the results conflict with the quarter-mile (400 m) assumption typically implemented by transport planners. Unlike other studies, they suggest **nearer** distances are required to incentivize walking.

44. Systematic literature review of built environment effects on physical activity and active transport - an update and new findings on health equity.

(Smith et al., 2017)

The study investigates the environmental interventions that enhance local physical activity. Consistently, there was a positive correlation **of:** walkability components, parks and playgrounds, & installation/improvement of active transport infrastructure, **with**: active transport, physical activity and usage of urban settings. (p. 21).

The authors also observed some non-specific relationships – e.g. installing fitness or playground equipment coincided with increased active transport to that locality.

- Positive impacts were consistent across children and adults.

The authors then considered, (drawing from findings of other studies), the variation of these positive intervention effects in different ethnic & socioeconomic groups. They noted the following observations:

- One study found usage of new walking & cycling paths were dominated by: higher income, higher education, and employed groups.
- Another study found that park improvements saw increased usage by white ethnic groups; but observed no significant difference for black, Hispanic, or other users.

Thus, there is indication that environmental improvements may disproportionately benefit socioeconomically-advantaged groups.

45. Walking Distance by Trip Purpose and Population Subgroups.

(Yang & Diez Roux, 2012) – U.S.

The study investigates the levels of walking, and walking trip distances & durations. It utilized data from the 2009 National Household Travel Survey, from which a distance-decay function was derived.

It found the following:

- For the **16.4%** of respondents who had at least one walking trip per day – their trips had the following averages:

	Mean		Median	
Distance	0.7 miles	**1100 m**	0.5 miles	**800 m**
Duration	**14.9 mins**		**10 mins**	

- Around 65% of walking trips were over 0.25 (400 m).
- Thus, while walking is found in only a small share (16.4%), it is common for walking trips to exceed 400m.
- However, distances and duration also varies by purpose. The above figures were overalls, and included recreational walking & pet-related walking. These are more leisurely in nature than transit, and often have longer distances/durations.
- For distinctive figures on active transport **by purpose**, the following statistics are provided, for elaboration. (p. 15).

Work

	Mean	
Distance	0.3 miles	**480 m**
Duration	2.7 mins	

Study

	Mean	
Distance	0.18 miles	**290m**

Duration	4.4 mins

Shopping

	Mean	
Distance	0.08 miles	**130 m**
Duration	1 min	

Social events

	Mean	
Distance	0.18 miles	**290 m**
Duration	4.3 mins	

Recreation

	Mean	
Distance	0.47	**756 m**
Duration	9.8 mins	

46. Cities for People – Chapter 4.2

(Gehl, 20120)

The average walking speed is 14.2 min per kilometer in summer; 10.3 min per kilometer in winter.

- *Note that these time estimates are on the basis that pedestrians are unimpeded in their path and the area is uncrowded, unobstructed, and walker-friendly.*
- *For diverse people, this means different things. The degree of path wideness & quality may differ based on the needs of people pushing strollers, disabled pedestrians, etc.*

In general terms, **a 500m walk is widely accepted as an appropriate walking distance (p. 134).**

However, this is not unequivocally so. An acceptable walk is also dependent on additional variables, such as –

Factors enhancing walkability:

- Quality of path
- Comfort of route
- An interesting route
- Rich in experiences – e.g. visual, sensory
- Manageable segments
- Pleasant streetscape, landscaping, greenery

- Ramps – friendly to diverse individuals & needs
- Good lighting

Impediments to walkability:

- Car-dominated design, prioritizing vehicles
- Pedestrians becoming alienated to the side of passageways
- Crowded sidewalks
- Subsequent shoving – unfriendly particularly to disabled, children & elderly
- Sidewalk interruptions: entrances, garages etc. (e.g. parking lot entrances)
- 'Tiring length perspective' – when you can see an entire route before even embarking, seemingly endless, no prospect of novel/interesting factors
- Steps & staircases – not accessible to all
- Cobblestones: in excess, the unevenness is unfriendly to rolling pedestrian traffic, pedestrians wearing heeled footwear, etc.

The authors notes the significance of these factors in impacting the distances individuals are willing to walk.

47. A review on the effects of physical built environment attributes on enhancing walking and cycling activity levels within residential neighborhoods.

(Wang et al., 2016)

This is a comprehensive review on existing literature on environmental elements which enhance or impede walkability. In terms of the focal issue [distance] – the paper refers to McCormack et al., (2008) which has already been discussed – [no. 36].

48. Neighbourhood Destination Accessibility Index: A GIS Tool for Measuring Infrastructure Support for Neighbourhood Physical Activity.

(Witten et al., 2011) – New Zealand

The paper is concerned with measures for pedestrian access to neighbourhood destinations – categorized into 8 groups: (education, transport, recreation, social & cultural, food retail, financial, health, and other retail).

However, it focuses on the variation of these destination opportunities amongst different neighbourhoods and socioeconomic communities.

It does not provide any conclusions on distance – only utilizes the 800m buffer typically assumed in literature, as a measuring of defining pedestrian access.

49. The Problem of Catchment in Centres-based Residential Growth Planning.

(Munro, 2009) – New Zealand

The paper notes that: "the 800m circle has become accepted as representing a convenient 10 minute walk for most people in a community (based on a walk speed averaging 1.3m/s across the journey and including minor delays)" – (p. 2).

As such, the author **adopts** the 800m walking distance as the basis for assuming walkable catchment sizes for the rest of the paper.

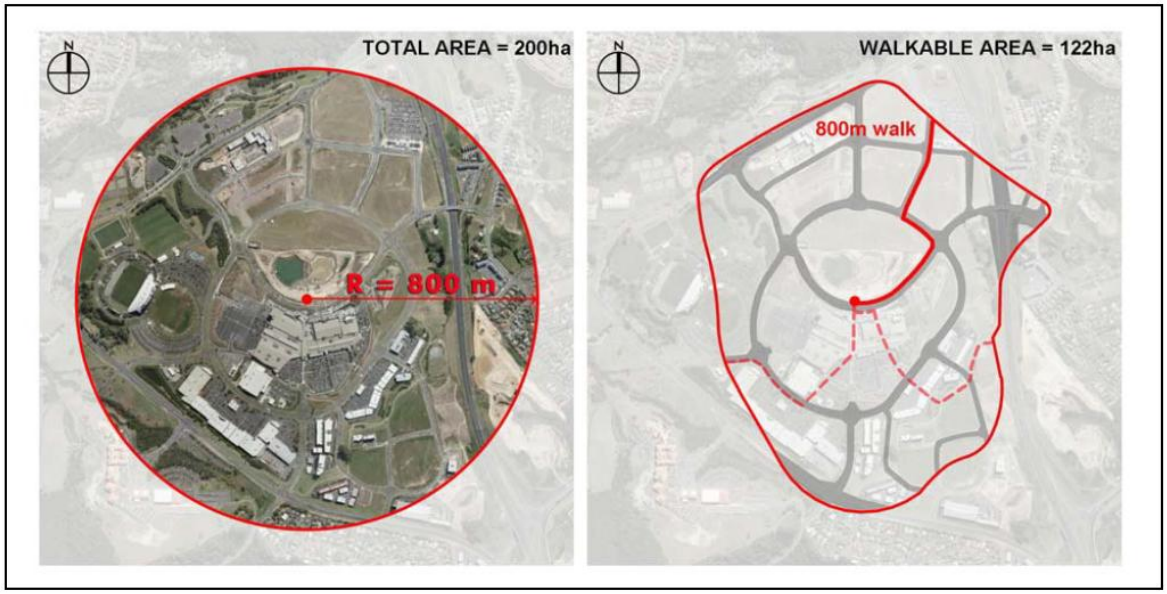
Munro notes that:

- "The 800m radius circle needs to be **reduced to an 800m walkable catchment**" – (p. 5).

It appears that he contends 800m should be the actual distance or path travelled; not a linear 800m *radius* that disregards actual environmental characteristics and their implications on walking. In particular, due to divisions in the urban fabric (highways, rivers, large urban blocks), the actual distances travelled (or that can be travelled) will differ from what is represented by a straight 800m line.

The below figure (p. 6) is provided in his case study of Albany centre.

FIGURE 2: Walkable catchment of Albany centre.



The first image represents an 800m radius; but it is adjusted in the second image to represent an 800m walk. The actual paths are shown – which are not linear, straight lines. Thus a reduction in space is necessary, to produce a more accurate walkable *catchment*.

The paper then focuses on the issue of developable land within an 800m catchment. Munro argues that, for residential purposes, the actual developable area in a catchment is quite limited, due to an abundance of space being allocated to:

- necessary infrastructure (roads, open spaces, etc.)
- business zones & office zones etc.
- separation of 20m (minimum) between buildings as per AUP standards
- common spaces in residential buildings (e.g. terrace housing/apartments) which will not be built on.

Therefore, only a small portion of the catchment can actually be developed.

50. Consumer Behavior and Travel Mode Choices

(Clifton et al., 2012) – Portland

The paper is focused on the association between consumer behaviour and travel mode choices, to destinations at a local level.

Data was collected via surveys, at 78 establishments across Portland. They were further categorized into convenience stores, high-turnover restaurants, and drinking places. Overall, walking accounted for 25% of the mode share to these destinations.

More detailed figures are below, for mode share:

Table 2. Percent Mode Shares by Area Type and Land Use

Area Type & Land Use	Automobile Mode Share	Walk Mode Share	Bicycle Mode Share	Transit Mode Share
Convenience	58%	27%	7%	6%
Central Business District	34%	49%	10%	10%
Urban Core	52%	31%	9%	6%
Regional Centers	60%	26%	7%	5%
Suburban Town Centers	70%	18%	3%	7%
Suburban Areas	72%	14%	8%	3%
High-turnover Restaurant	63%	22%	8%	6%
Central Business District	35%	42%	7%	16%
Urban Core	65%	20%	13%	2%
Regional Centers	70%	24%	6%	1%
Suburban Town Centers	85%	6%	1%	6%
Suburban Areas	86%	5%	0%	8%
Drinking Place	43%	27%	22%	7%
Central Business District	26%	40%	19%	15%
Urban Core	46%	20%	25%	8%
Regional Centers	52%	30%	18%	1%
Suburban Town Centers*	N/A	N/A	N/A	N/A
Suburban Areas*	N/A	N/A	N/A	N/A
Overall	58%	25%	9%	7%
Central Business District	34%	43%	9%	14%
Urban Core	57%	23%	15%	5%
Regional Centers	61%	26%	10%	3%
Suburban Town Centers	79%	11%	2%	7%
Suburban Areas	78%	10%	5%	5%

*Drinking places were not surveyed in suburban area types

Distance: Unsurprisingly, **pedestrian** trips to these destinations were found to be of the shortest distances; **averaging 0.7 miles (~1127m).** However, the authors note that this distance exceeds conventional planning guides by far.

The rest of the study focused on the interesting discovery that travelling longer distances to various destinations (restaurants/bars) was associated with slightly higher spending habits. However, this was *not* specific to the walking mode share.

51. People + Places + Spaces – A design guide for urban New Zealand

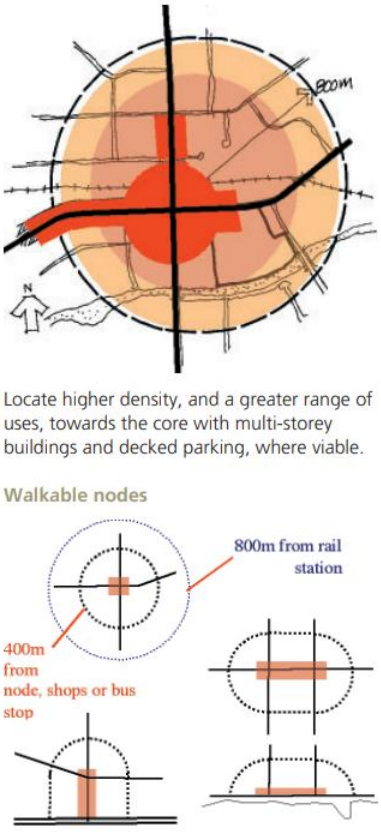
(Ministry for the Environment, 2002) – New Zealand

In particular, walkability (distance) is discussed under two urban design principles:

- Consolidation and dispersal

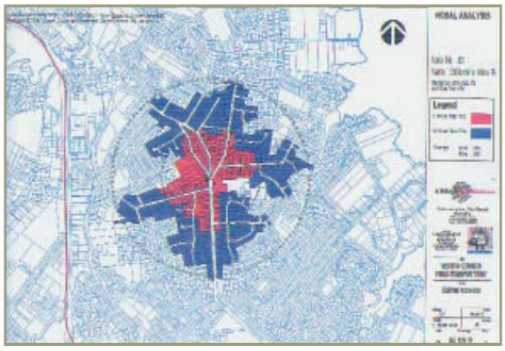
Consolidation is the practice of 'creat(ing) critical mass and bring(ing) vitality to an area by supporting more businesses and service activities, greater street life and more movement.' – p. 33. As a result of consolidation, the area becomes safer and more vibrant; encouraging foot traffic & pedestrians to frequent the area.

In terms of consolidation, the design guide recommends urban nodes to be defined as walkable catchments. A walkable catchment should be 400m (5 min) from shops or bus stops, and 800m (10 min) from rail stations. (Fig 1)



Locate higher density, and a greater range of uses, towards the core with multi-storey buildings and decked parking, where viable.

Figure 1 – p. 43



A 'pedshed' effectively measures the efficiency of pedestrian access to the centre of a node. Here the areas within 400m (red) of a bus stop or neighbourhood centre, and 800m (blue) of a town centre or rail station, are tested. The areas within actual safe walking distance (400m or 800m) of the node are shaded. These are compared with the theoretical area within the radius. Aim for 70 percent of the area or more. Efficiencies can be improved with new linkages, or by shifting the centre, as was done with the rail station at Glen Eden.

Figure 2 – p. 44

- Integration and connectivity

This refers to the facilitation of movement via street patterns; enhancing the convenience and enjoyment of walking/cycling.

Here, a 'pedshed' is referred to, though in the same vein. Similarly, a pedshed should encompass areas 400m from a bus stop or **neighbourhood centre**; or 800m from a rail station or **town centre.**

Here, a distinction is made between a 400m/800m linear radius versus 400m/800m **actual safe walking distance** (Fig. 2).

52. Urban Design Toolkit

(Ministry for the Environment, 2006) – New Zealand

- Walkability analysis / pedshed analysis (p. 17)

This is a technique to measure the population catchment encompassed within a 5-10 minute walk from an activity, transport stop or node (p. 17).

It is used by overlaying a fixed-diameter circle upon a map. The circle radius is typically based on the assumption of an average person walking 400m within five minutes, or 800m within ten minutes.

53. Planning Advice Note – Master Planning

(Crowan, 2008) – Scotland

The reading is mainly focused on the process of preparing & executing a masterplan.

There is little mention of walking– 4 times within 75 pages. These mentions are very general; pertaining to sustainable travel – e.g. promote & enhance walkability.

There is no definition of an acceptable walking distance, nor of catchments.

54. The Urban Design Compendium

(Llewelyn-Davies, 2000) – U.K

Walkable neighbourhood (p. 35). To facilitate ease of walking, the following distances are recommended:

- to post box or telephone box: **250m**
- to newsagents: **400 m**
- to local shops, bus stop, health centre, (possibly) primary school: **800m**

Public access to open space (p. 57)

- Ideally, parks should be located within **250-400m** walking distance from most homes.

Public transport catchments (p. 74)

- "A bus route will be viable if there are enough people within a **400m radius** (5 minutes walk) of each stop."

- The ideal catchment per stop for different forms of public transit is shown below (p. 74):

Table 4.1 Catchment areas for public transport					
	Minibus	Bus	Guided bus	Light rail	Rail
Stop interval	200m	200m	300m	600m	1,000m+
Corridor width / area served	800m	800m	800m	1,000m	2,000m+
Catchment per stop	320 – 640	480 – 1,760	1,680 – 3,120	4,800 – 9,000	24,000 – 24,000

- However, the paper consistently uses a 400m radius as a benchmark which is recognized as a typical, widely-used standard in mixed-use neighbourhoods (p. 41). See below:

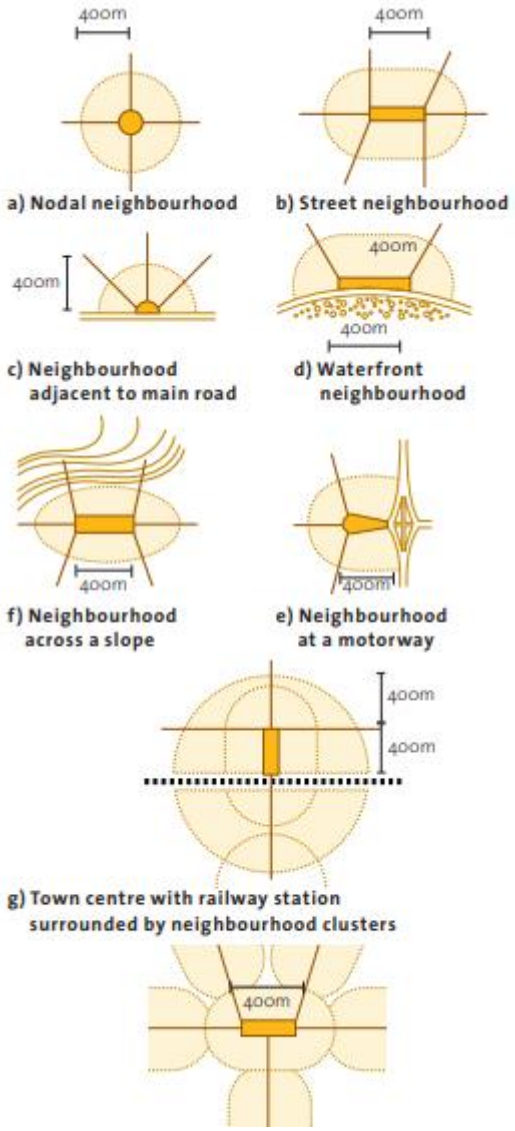


Figure 3 - p. 41

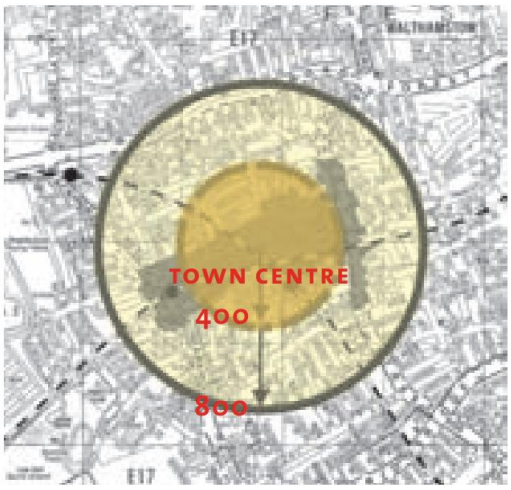


Figure 2 - p. 36

55. Human Walking Analysis Assisted by DGPS

(Ladetto et al., 2000)

This paper does not provide information on preferred walking distances.

Instead, it is focused on finding a suitable approach to calibrate human walking patterns; framed by a broader objective to understand the daily activities of individuals. In particular, it is concerned with differing stride lengths – the variability of which impacts 'dead reckoning for on foot navigation' (p. 2). In response, the paper puts forward an approach to calibrating strides, 'as a basis for global pedestrian dead reckoning applications' (p. 2).

The approaches used to calibrate dead-reckoning distances for vehicles are unsatisfactory for that of pedestrian travel. This is due to issues like the lack of consistency in human walking, the constant factors impacting walk variability, and, statistically, because systematic errors are too significant – such as in small Inertia Measurement Unit (IMU).

The author proposes Continuous Step Calibration method in order to avoid distance errors otherwise encountered by alternative techniques.

56. Urban liveability: Emerging lessons from Australia for exploring the potential for indicators to measure the social determinants of health

(Badland et al., 2014)

This paper:

- connects liveability and social factors for health
- synthesizes liveability indicators developed as of 2014
- evaluates their quality through a health/wellbeing paradigm.

It is based on 114 academic/policy documents and reports; from which 233 indicators were funnelled through based on relevance, arriving at **11 domains of** liveability – 'likely contribut(ing) to health and wellbeing through the social determinants of health' (p. 64).

They are:

- crime and safety
- education
- employment and income
- health and social services
- housing
- leisure and culture
- local food and other goods
- natural environment
- public open space
- transport
- social cohesion and local democracy

No explicit distances were mentioned in terms of walking. However, the following were related to walkability:

Transport (p. 70)

- Walkable environments may enhance transit via walking, cycling and public transport – encouraging recurrent physical activity, preventing disease and obesity (Beaglehole et al., 2011).
- Inequalities may also be addressed through walkable environments to significant destinations, thus providing lower-cost, feasible options.

Local food and other goods (p. 69)

- Shops within walking distance enhance active travel patterns (Staffford et al., 2007b).

The Stafford study was reviewed to see if it offered any definition of a walkable distance. The paper (Pathways to obesity: Identifying local, modifiable determinants of physical activity and diet) was largely related health/wellness. In terms of distance: it retained 'Distance to the post office' as a standard in their model, for predicting obesity. The median distance was 366m. (Stafford et al., 2007, p. 1888).

> *Stafford, M., Cummins, S., Ellaway, A., Sacker, A., Wiggins, R., & Macintyre, S. (2007). Pathways to obesity: identifying local, modifiable determinants of physical activity and diet. Social Science & Medicine 65, 1882e1897.*

Education (p. 68)

- Walkability of the urban environment surrounding schools is an optimistic indicator for liveability (Community Indicators Victoria, 2013).

57. Walking to scale: an index to assess walkability at the residential scale.

(Forsyth, 2016) – Auckland, NZ

This paper develops a **residential-scale walkability index** as an alternative approach from aggregate data & areal *neighbourhood* analysis; (as the latter results in statistical errors and is limited in its application, to only the specific area studied).

Thus, the author proposes a disaggregate approach to forming residential scale walkability indexes (as opposed to the neighbourhood scale).

Incorporated in the study are the factors of **population density, street connectivity, diversity of land use** – which the author finds to be the key metrics of walkability, through a review of literature.

As part of the method, a residential-scale walkability index (RSWI) was developed at the **5 and 10 minute walking scales** (p. i). Notably, the author notes the papers of Learnihan et al. (2022) and Middleton (2009), and observes that '*the **true focus** of a residential scale approach is on the temporal distance, as opposed to the spatial distance'* (p. 15). Consistently, the paper gives greater emphasis to temporal distances.

In particular, the flexibility of the RSWI approach means that it is tailorable to different subpopulations – such as for children or the elderly who may be able to walk much shorter distances compared to the general population (p. 71).

Overall, the major finding of the study is that measuring walkability at a residential scale (as an index) is feasible and arguably a better option than standard neighbourhood-scale analyses – by overcoming problems (e.g. the lack of standardization) observed in the latter (p. 84).

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Appendix 21

Cohesive zoning response

1 Cohesive zoning as a qualifying matter and in other areas

Any cohesive zoning response changes in walkable catchments and suburban centres[1] where intensification is required by the National Policy Statement on Urban Development ('**NPS-UD**') or in the five specific train stations named[2] in the Resource Management (Consenting and Other System Changes) Amendment Act 2025 ('**RMA Amendment Act**') are a qualifying matter. More information on cohesive zoning as a qualifying matter can be found in the s32 Evaluation Report on Qualifying Matters – Cohesive zoning response.

The cohesive zoning response was also applied in other areas of residential intensification outside of the NPS-UD and RMA Amendment Act directed areas. These were the Frequent Transit Network corridors and the wider residential zonings across Auckland.

2 Actions in PC120 which create irregular zoning patterns

The application of specific zonings to properties via an automated GIS process can result in areas where the zoning pattern can appear ad-hoc or irrational. In regard to PC120, these unusual zoning patterns are typically a result of two processes.

Firstly, PC120 proposes that the residual residential area of Auckland has a zoning response based on accessibility. The accessibility of different parts of the residual residential area can be calculated using an access score from Auckland Council's Framework for Urban Access ('**FUA**'). The FUA measures accessibility by public transport and/or walking to a range of opportunities (e.g. jobs, people, shops, schools). The FUA methodology is outlined in detail in **Appendix 2**. The output of the FUA is a comparable 'access score' (between 0 and 1) at high spatial resolution across the Auckland urban area.

The automated GIS conversion of access scores (as represented over their summary areas) directly to zonings results in a specific zone boundary. For example, Figure 1 shows areas of lower access scores (blue hexagon shaded areas) and which cut across roads and properties.

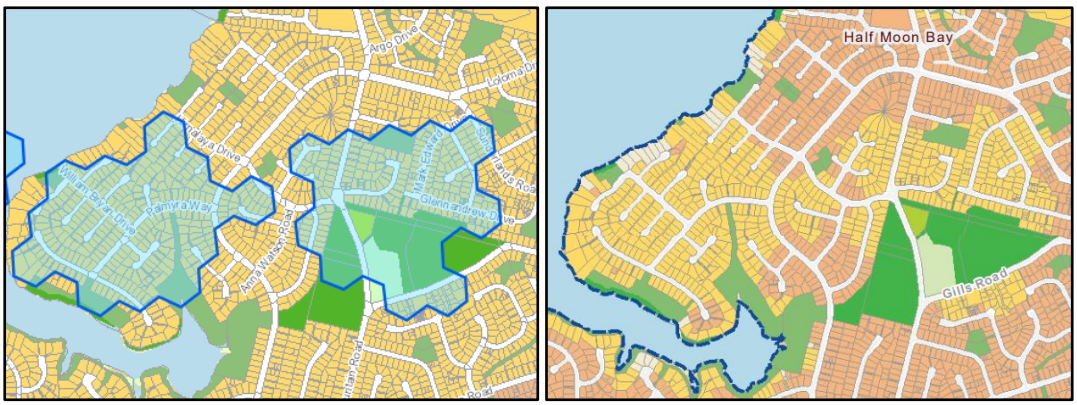


Figure 1. (Left) Example of lower access scores in blue shaded area, and (Right) the resulting zoning pattern

[1] Policy 3(c) and Policy 3(d) of the NPS-UD.
[2] Maungawhau, Kingsland, Morningside, Baldwin Ave, and Mt Albert train stations.

The access scores from the FUA are not intended to be site specific. Rather, the FUA is a higher-level tool identifying broader areas of higher and lower access. The irregular zoning pattern is the result of the lower spatial resolution in the FUA (hexagons) combined with the than in the AUP (sites/properties). To create a more logical zoning pattern a "cohesive zoning" exercise was undertaken following the application of the Mixed Housing Suburban and Mixed Housing Urban zones based on access scores. The second process in PC120 that can result in irregular zoning patterns is in the application of spatially specific constraints (or 'qualifying matters'). The 'upzoning' (where land is proposed to be rezoned to a higher intensity zone) directed by the NPS-UD and the RMA Amendment Act *initially* affects most properties in a uniform manner. For example, the first step for upzoning a walkable catchment is to rezone all residential land within that catchment to the Terrace Housing and Apartment Buildings ('**THAB**') zone.

However, following this all the relevant constraints are then applied to the area (e.g. flooding, coastal hazards, Significant Ecological Areas ('**SEA**'), and High Voltage Transmission Lines). Some of these constraints can result in downzoning of areas or specific sites affected by that constraint.

Therefore, any sites affected by a specific constraint can have its zone changed from what it may have otherwise been.[3] This means that the pattern of zoning is directly related to the exact spatial extent of the planning constraint. For example, the top map in Figure 2 shows a gully area with flooding and SEA constraints that result in a fairly 'ad-hoc' application of the Single House zone (as these qualifying matters only rezone the properties impacted by the constraint). The bottom map then shows the application of the cohesive zoning exercise in filling gaps along the gully to the Single House zone.

The application of specific zonings to properties through a computer-generated 'rules' process can unintentionally produce irregular or ad-hoc zoning outcomes. Planners have subsequently reviewed these and adjusted the maps to ensure the overall zoning approach is coherent and rational.

[3] What the site would otherwise have been zoned for in the wider residential area through the FUA access score or corridor upzoning, or if within a walkable catchment the zoning before a Qualifying Matter is applied.

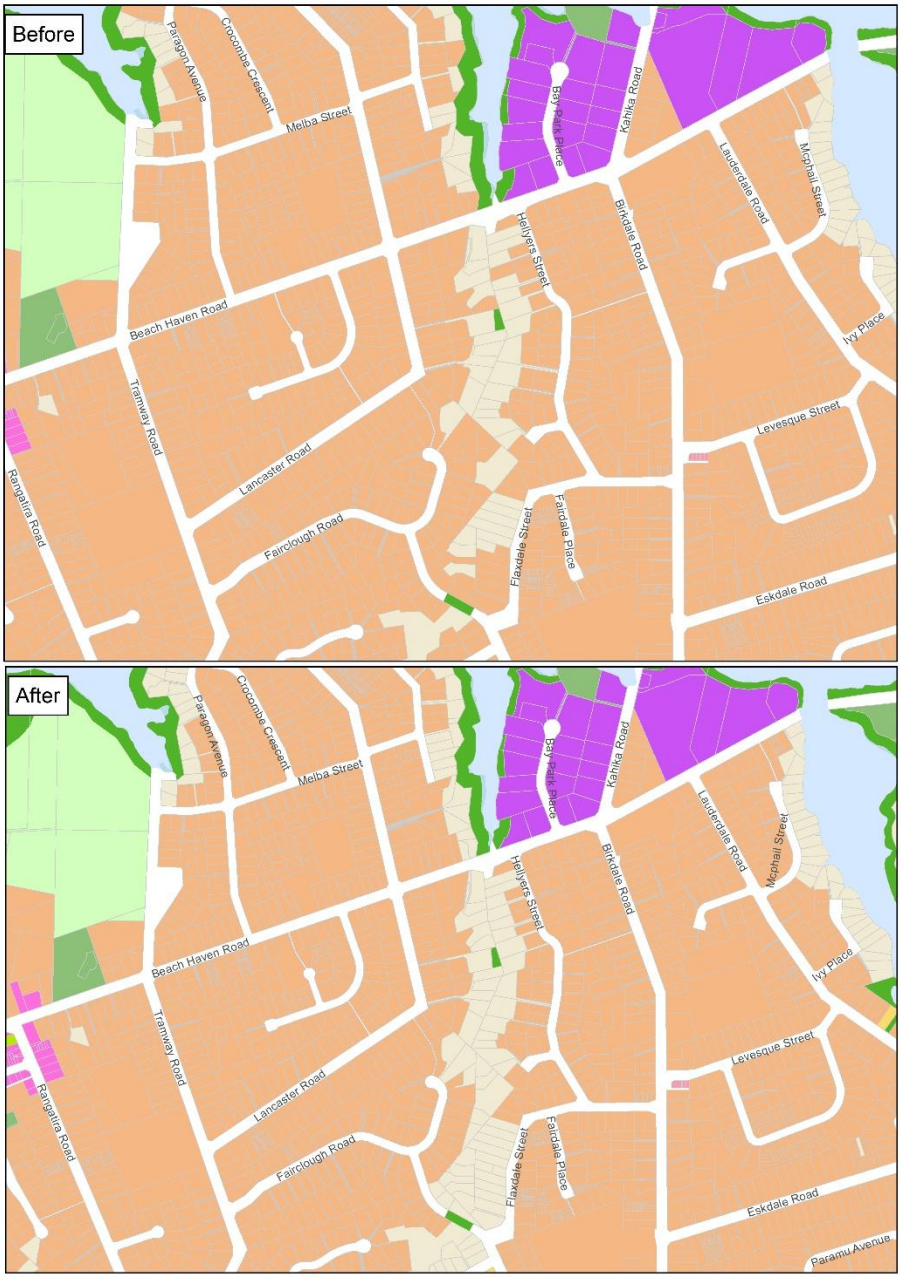


Figure 2: Before and after cohesive zoning example of a gully area with flooding and SEA qualifying matters applying.

3 Why is a cohesive zoning pattern necessary?

Zoning is the foundation of planning systems in many developed countries and has been used in New Zealand since 1926. Zoning is a planning tool used to organise activities or manage environmental effects in a defined spatial area.

The basic purpose of the zoning mechanism is to provide for the grouping or co-location of compatible uses and for the separation of incompatible uses. Zoning is a relatively blunt tool that works best over larger areas and areas where values can be clearly defined.

Where two different zonings adjoin each other, it is referred to as a zone boundary. The exact location of a zone boundary can be difficult to determine with certainty, as the boundary is a sharp cut-off and does not take into account any gradual variation in values that may exist. Therefore, zones tend to be applied relatively broadly to a contiguous area of sites that can be a neighbourhood or suburb, and generally at least align to a road edge or a block boundary.

Fundamentally, zoning is not a method intended to be applied on a site-by-site basis, but rather applied to larger cohesive areas.

Where a zone of a specific property differs from those of the surrounding area, it is referred to as a 'spot zoning'. Generally, spot zonings are discouraged as they can lead to inconsistent or haphazard development, disrupting the intended order and balance of the zoning method.[4]

Guidance on zoning during the hearings for the Unitary Plan stated that a 'best practice' approach to zoning included the following:

- Zone boundaries need to be clearly defensible e.g. follow roads where possible or other boundaries consistent with the purpose of the zone.
- Zone boundaries should follow property boundaries.
- Generally, no "spot zoning" (i.e. a single site zoned on its own).[5]

4 What types of changes were made in the cohesive zoning exercise?

4.1 Overview

A "cohesive zoning" exercise was undertaken as one of the final steps in developing PC120. The purpose of this exercise was to create a more logical zoning pattern across Auckland by 'amending' some of the spot zonings and ad-hoc zoning patterns generated during the development of PC120.

The majority of the zone changes from the cohesive zoning exercise were in relation to the boundary between the Mixed Housing Suburban and Mixed Housing Urban zone. As

[4] It is noted that there are types of '*spot zoning*' that are generally accepted in the New Zealand planning system. However, these do not actually change the zoning of the site itself. Rather, the zoning can be overridden by tools such as site-specific precincts and designations of sites for public works.

[5] Independent Hearings Panel, *Interim Guidance - Best practice approaches to re-zoning, precincts and changes to the Rural Urban Boundary (RUB),* 31 July 2015

outlined above, PC120 proposes that the residual residential area of Auckland has a zoning of Mixed Housing Suburban or Mixed Housing Urban based on access scores.

The automated GIS conversion of access scores directly to zonings results in a zoning pattern that appears to be based on site-by-site information. However, the access scores are in fact a broader measure of accessibility that are more representative of a generalised area, than a specific property.

Therefore, the cohesive zoning exercise was used to more logically bring the interface of the Mixed Housing Suburban and Urban zonings to recognised boundaries such as roads, blocks, parks, or walkways. This often resulted in extending the Mixed Housing Suburban zone for an area of lower access to more logical edges.

In other cases where the cohesive zoning exercise resulted in zone changes, they were typically in relation to upzoned 'islands' of higher density zonings. These were the outcome of the application of planning constraints[6] that happened to impact on most sites in an area but leave out one (or a small number) of sites. In these cases, the 'islands' of higher density zonings were downzoned to match their surroundings.

The cohesive zoning exercise was not used to 'upzone' any sites that had been 'downzoned' by a planning constraint. Therefore, in some cases where a planning constraint affected only one property (and none of those nearby), the cohesive zoning exercise was not able achieve a consistent zoning pattern. An example of this is the Single House zoned property (flooding constraint) in Figure 3 below.

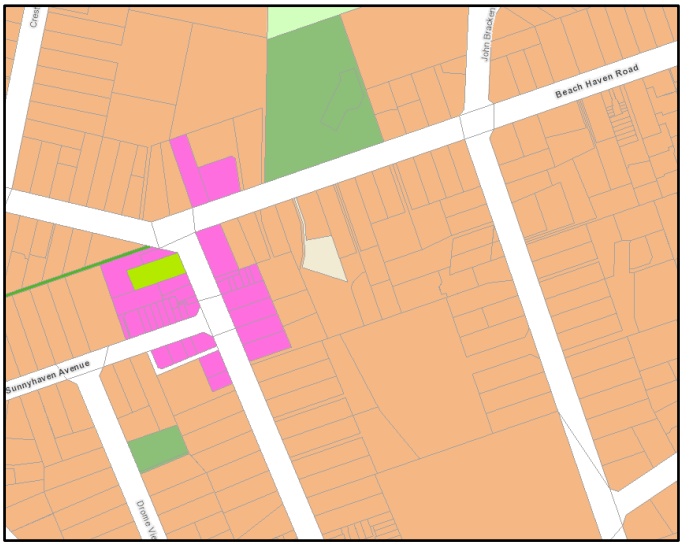


Figure 3: Example of where a planning constraint only affects the zoning of one site

Overall, the cohesive zoning exercise was predominately one of 'downzoning' sites. In recognition of the impact that this might have on meeting the overall plan enabled capacity directed by government, the cohesive zoning exercise also sought to upzone sites to Mixed Housing Urban or THAB when presented with sound opportunities.

[6] Or 'Qualifying Matters' in Policy 3(c) and (d) areas.

4.2 Cohesive zoning in "other residential areas"

In the corridors and the residual residential areas of Auckland[7] the following are typical examples of changes to zonings made through the cohesive zoning exercise.

Mixed Housing Suburban-Mixed Housing Urban edges:

- Expansion of Mixed Housing Suburban zones to form more logical boundaries (Figure 4)
- Expansion of Mixed Housing Suburban zones to form more logical boundaries but retaining main road as Mixed Housing Urban (Figure 5)
- Merging of adjacent areas of Mixed Housing Suburban (Figure 6)
- Removal of smaller areas of Mixed Housing Suburban areas (Figure 7)

Coastal edges:

- Expansion of the Mixed Housing Suburban zone or Single House zone where planning constraints affect some coastal properties in the vicinity (Figure 8)

Gullies with flooding and SEAs:

- Expansion of the Single House zone to link areas together where these planning constraints affect some properties in gully systems (Figure 2)

Upzoning to THAB:

- Expansion of THAB zone in relatively small areas where it fills in blocks or links nearby THAB zonings (Figure 9)

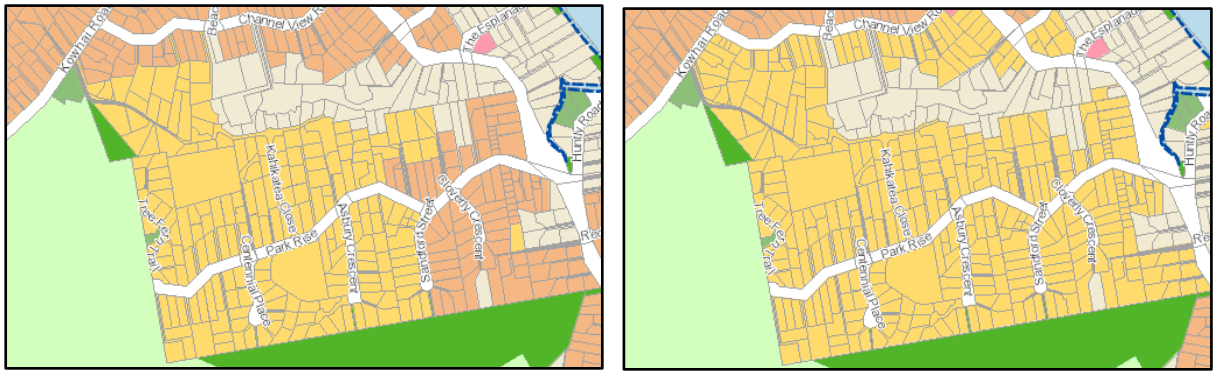


Figure 4: Example of a lower access area of Mixed Housing Suburban extended to more logical edge boundaries of roads and parks

[7] i.e. all the residential zones outside of the Policy 3(c) and 3(d) areas.

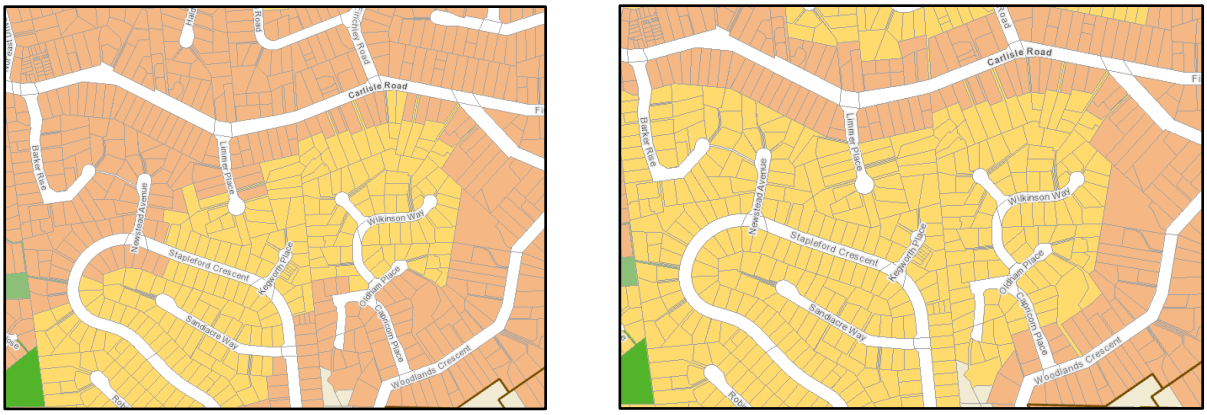


Figure 5: Example of a lower access area of Mixed Housing Suburban extended to more logical edge boundaries – while still zoning the main road as Mixed Housing Urban

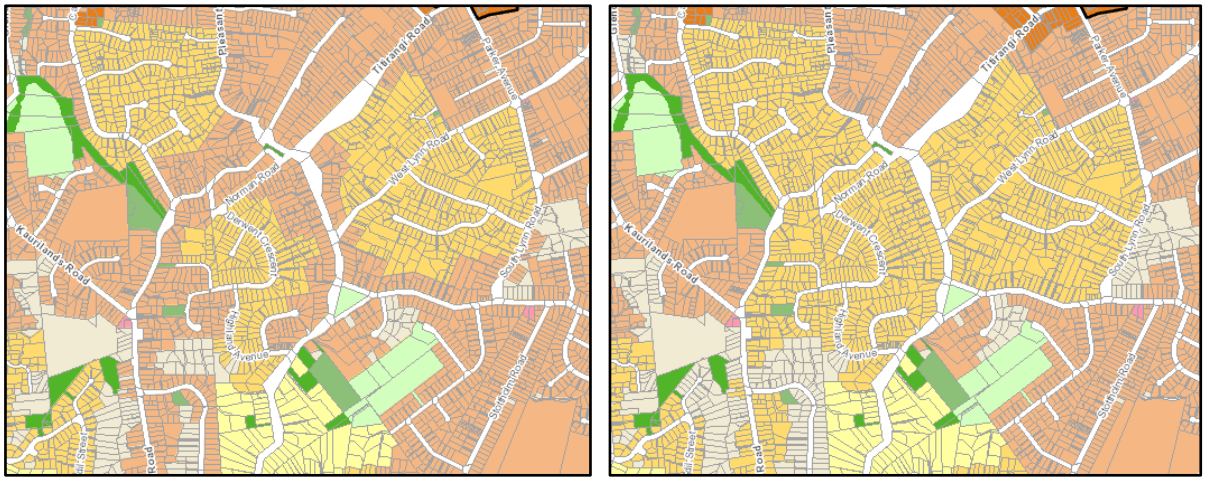


Figure 6: Example of the merging of nearby areas of lower access Mixed Housing Suburban

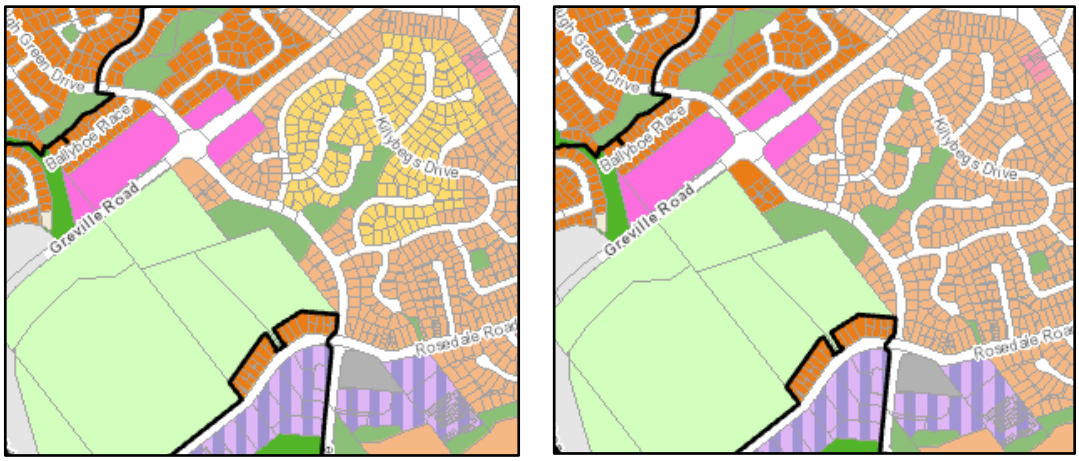


Figure 7: Example of the removal of a small area lower access Mixed Housing Suburban zone (rezoned to Mixed Housing Urban)

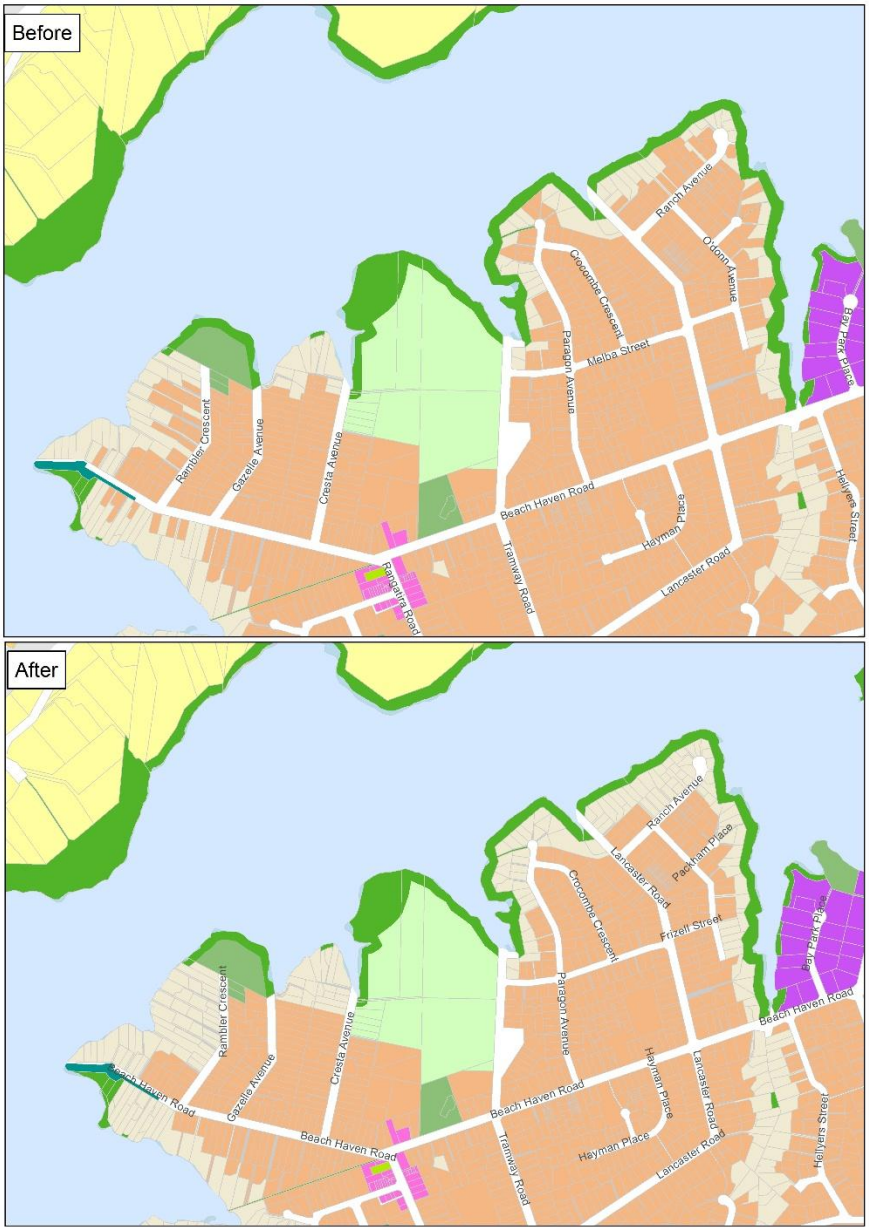


Figure 8: Example of the expansion of the Single House zone around coastal edges

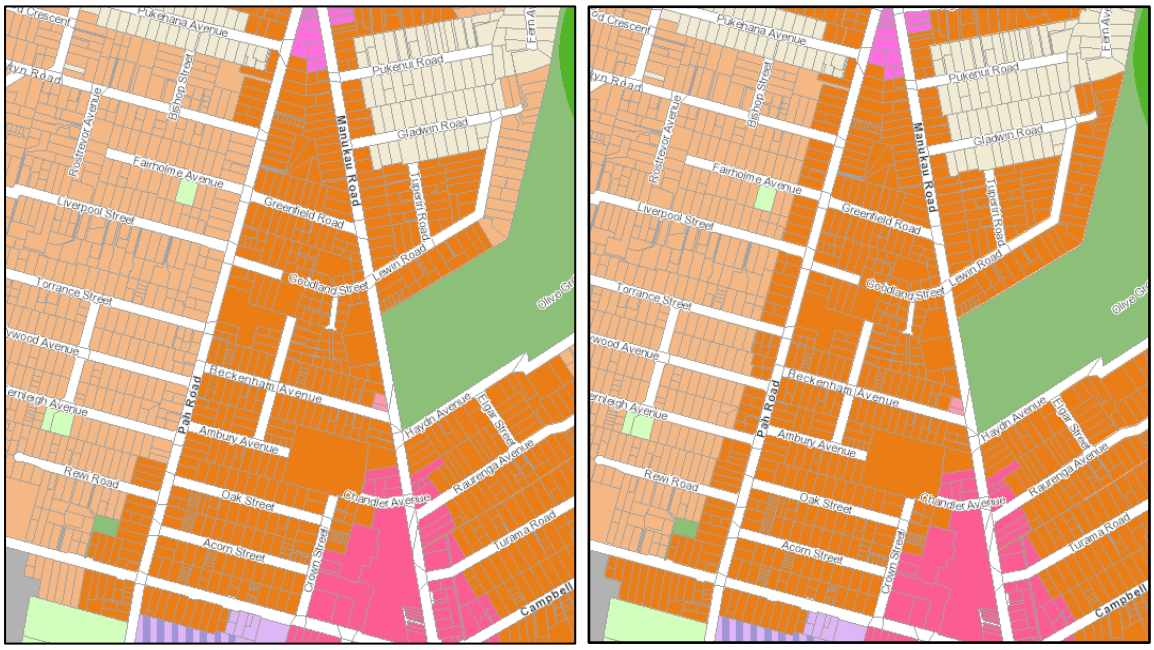


Figure 9: Example the expansion of the THAB zone

4.3 Within Policy 3(c) and Policy 3(d) areas:

The cohesive zoning exercise (as a qualifying matter[8]) resulted in changes mostly related to a single (or group) of 'orphaned' THAB sites (Figure 10).

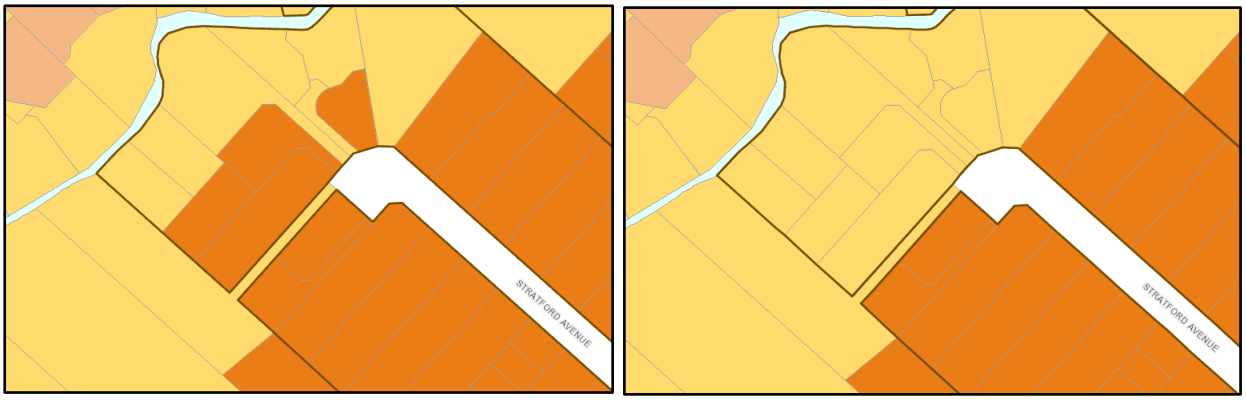


Figure 10: Example of the downzoning of THAB sites

[8] Note that any zoning changes based on the cohesive zoning exercise within Policy 3(c) and 3(d) areas are covered by the s32 report on cohesive zoning as a Qualifying Matter.

5 Conclusion

The cohesive zoning response was not able to pick up and rectify all zoning anomalies and therefore was not able achieve a consistent zoning pattern in all cases. However, overall the cohesive zoning response improves the legibility, consistency, and integrity of zoning patterns by reducing the occurrence of ad-hoc or isolated zone outcomes (such as spot zonings). The resulting zoning patterns are more spatially coherent, defensible, and improve plan usability.

Appendix 22

Determining walkable catchments for height beyond 6 storeys

1. Application of Multi-criteria Analysis to 66 walkable catchments

The principles underpinning the spatial distribution of intensification and heights[1] are as follows:

- Enable intensification compatible with the Future Development Strategy 2023-2053 ('**FDS**') and the quality compact city approach
- Enable some increased intensification to add capacity (help offset natural hazards and Medium Density Residential Standards ('**MDRS**'))
- Reflect the Auckland Unitary Plan Operative in Part ('**AUP**') centres and heights hierarchy
- Focus any additional height directly around stations/centres/corridors
- Use existing and planned infrastructure efficiently
- Acknowledge that qualifying matters apply and may reduce heights in some areas.

These principles along with the Ministry for Environment's guidance[2] were used to guide the development of a multi-criteria analysis for identifying those walkable catchments most appropriate for additional height (beyond 6 storeys).

The Ministry's guidance identifies that height and density should be enabled in locations that have higher residential and business demand. Higher demand is related to proximity to amenities such as open space, conveniences, community facilities, and in locations with good access to employment opportunities. Further, appropriate locations could be where land is walkable to rapid transit (both planned and existing). The guidance also notes that a location can have both good accessibility and high demand, or it can have just one of these to be considered appropriate for further intensification.

The following section sets out four criteria which were used as the basis for selection of walkable catchments for intensification. The criteria outlined below reflect the above principles and guidance from the Ministry and capture multiple elements that are required to support intensification.

1.1. How did the criteria apply to determine the level of intensification appropriate in each walkable catchment?

All 66 walkable catchments across Auckland were ranked relative to each other based on the four criteria to determine whether they were appropriate for additional height. Each walkable catchment was assigned a score between 0-3 against each of these criteria outlined below.

[1] Auckland Council PC 78 – Joint Witness Statement Topic 014A, 014B, 014C, 014G, 014H, and 014I Height 11 & 12 March 2024. The conferencing established some principles on how heights could apply across the city.
[2] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 6.4.

1.1.1. Strategic Importance

This criterion was made up of three measures:

- alignment with the FDS;
- the level of investment by Auckland Transport; and
- station typology.

The FDS is Auckland's long-term approach to growth and development, setting out how Auckland will grow and change over the next 30 years. The strategy spatially identifies growth and investment locations across Auckland based on a strategic approach. Methods contained within the strategy include 'Nodes' and 'Joint Priority Areas'('**JPA**').

Nodes are locations identified as major growth areas critical to accommodating development. They are based around significant centres and service large sub-regional catchments. JPAs are identified as locations where the council and/or central government have programmes to provide significant investment in bulk infrastructure to enable growth.

Scoring for this criterion was applied on the basis of the following generic example in Table 1.

Criterion	Walkable Catchment located within a node and contains a JPA	Walkable Catchment located within a node (no JPA) OR Walkable Catchment contains a JPA only	Walkable catchment boundary partially overlaps node or partially contains a JPA	Not located within a node or JPA
Score	3	2	1	0

Table 1: FDS 2023-2053 Scoring

The second measure of strategic importance captured the level of investment in the current and future improvement state of each rapid transit station on which 54 of the walkable catchments are based.[3] This approach of making the most efficient use of infrastructure aligns with the aims of the FDS[4] and Regional Policy Statement ('**RPS**').[5] Further detail on the parameters for the rationale for the scoring of this criterion are included in PC120 Auckland Transport memo contained in **Appendix 23**. Scoring is indicated in Table 2.

[3] Plus they would also automatically apply to any centre (city centre or metropolitan centre) that has a rapid transit stop within it.
[4] Principle 3: Make efficient and equitable infrastructure investments.
[5] RPS B2.2.1 (1)(c)(d), B2.3.1. Objective 1(d).

Criterion	Investment within the past 10 years or identified for investment in the coming 10 years	N/A	N/A	No investment
Score	3	N/A	N/A	0

Table 2: Level of Investment Scoring

The final measure of strategic importance involved the categorisation of stations in the Auckland Rapid Transit Station Study.[6] The different categories of stations were used as a proxy to understand the relative function and connectivity of a station to the surrounding area. The report, at a high level, categories all of Auckland's rapid transit stations into six types. The categorisation of rapid transit stations is future focused to the extent that each considers committed investment. The six types of station shown in Figure 1were used as the basis for scoring each walkable catchment with a rapid transit stop. The station typology provides an indication of the station's strategic function and intent.

Only station typologies A (City Centre), B (Metropolitan), C (Town Centre) and T (Transfer) received a score on the basis of their classification in the report. These station typologies are considered appropriate to support further intensification. A generic example of scoring is shown in Table 3.

[6] AECOM / Auckland Transport. Auckland Rapid Transit Station Study (2022).

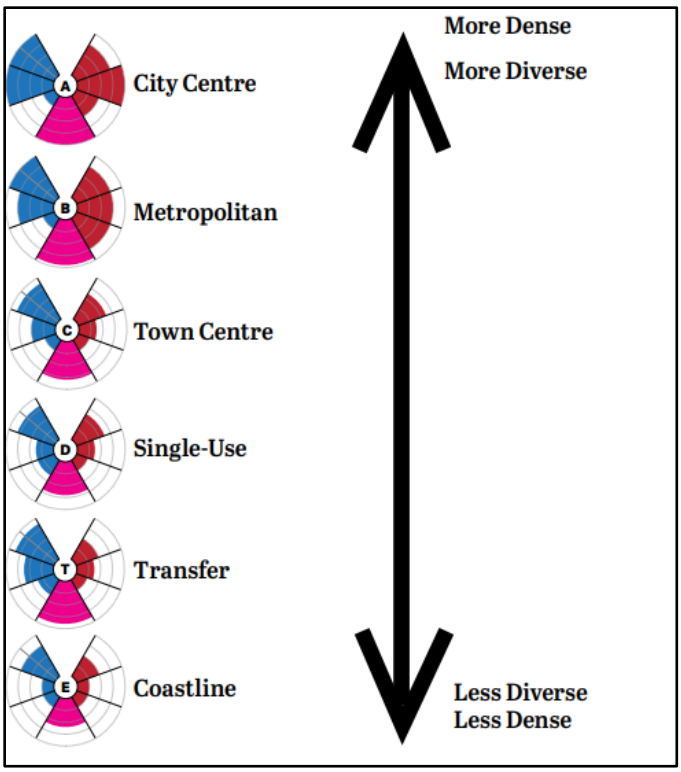


Figure 1: Station typologies relative to consideration of density and diversity in an area[7]

Criterion	Type A	Type B	Type C and T	Type D and E
Score	3	2	1	0

Table 3: Station Typologies Scoring

1.1.2. Accessibility

This criterion was made up of two measures from scores produced by Auckland Council's Framework for Urban Access (**FUA**) tool. The FUA methodology (see **Appendix 2**) uses a combination of validated Auckland Council data and frequently updated public datasets to analyse access by public transport and/or walking to a range of opportunities (e.g. jobs, people, shops, schools) across the urban area of Auckland.

To reflect the relative importance of different trip purposes, the results for each opportunity type are weighted using proportions from the New Zealand Household Travel Survey (**HHTS**). The HHTS is run by the Ministry of Transport and is the most comprehensive dataset available in New Zealand for understanding trip purpose distribution, both nationally and regionally. The

[7] AECOM / Auckland Transport. Auckland Rapid Transit Station Study (2022)

result is a comparable ‘access score’ (between 0 and 1) at high spatial resolution across the Auckland urban area.

A general access score was provided for a set point within each walkable catchment to measure the relative accessibility of each walkable catchment. Scoring in the MCA was based on the upper, middle and lower quartiles from the range of access scores produced.

The FUA tool can also produce the number of jobs accessible within 45 minutes of each walkable catchment. The number of jobs were used as a proxy for commuter trips to determine locations more appropriate for intensification, in that the higher the number of jobs accessible within 45 minutes the more appropriate the location.

Across all 66 walkable catchments access scores range between 0.35 - 0.85, and the number of jobs accessible within 45 minutes (000) ranges from 3,000 to 193,000.

A generic example of how each of these criteria could be scored is in Table 4.

Walkable Catchment Name	FUA score	Quartile range	Score	Jobs accessible within 45 minutes (000)	Quartile range	Score
Walkable Catchment 1	0.85	Upper	3	179	Upper	3
Walkable Catchment 2	0.73	Middle	2	128	Middle	2
Walkable Catchment 3	0.69	Lower	1	61	Lower	1
Walkable Catchment 4	0.61	Below first quartile	0	36	Below first quartile	0

Table 4: Accessibility Scoring

1.1.3. Concentration of amenities

This criterion was made up of a single measure calculated based on the sum of the zoned area of metropolitan, town or local centres[8]. The rationale for using this as a measure is that the combination of centre zone sizes provides a good indication of the levels of commercial activity and community services (including their potential over the long term) and in turn the concentration of amenities. The higher the concentration of amenities the more appropriate a location is to support intensification.

[8] Where a town or local centre falls on the boundary of a walkable catchment the total area of the town or local centre has been included in the scoring for the criteria.

The total centre zoning area (hectares) in each of the walkable catchment's ranges from 0ha to 226ha. The sum of the total centre zoned area was then categorised into upper, middle and lower quartile. A generic example of scoring is provided in table 5.

Walkable Catchment Name	Total area (ha)	Quartile range	Score
Walkable Catchment 1	200	Upper	3
Walkable Catchment 2	35	Middle	2
Walkable Catchment 3	6	Lower	1
Walkable Catchment 4	0.2	Below first quartile	0

Table 5: Concentration of amenities scoring

1.1.4. Residential demand

This criterion was made up of one measure informed by residential demand for land expressed as a median dollar value per square metre ($/m^2)[9]. This provides an indication of where residential demand is highest based on land values. The influence of zoning (i.e. the development potential of the land) was removed from the analysis of land values to provide a true reflection of demand based on where people want to live (i.e. are prepared to pay more for a certain location). The factors that generally make land more attractive include the concentration of amenities, access to jobs, and transport (both public transport and access via private vehicle). Refer to **Appendix 24** for more detail on how the residential demand data was derived.

Median land values across all 66 walkable catchments range from $496- $5,266. This is shown spatially in Figure 2, with the darker the colour showing the higher land values. Many of the highest values are concentrated on the isthmus in proximity to the city centre. The upper, middle and lower quartiles of median land values were used to determine scores (a generic example is included in Table 6).

[9] This information was drawn from Auckland Council's Chief Economist Office. Refer later in this appendix for raw data across all 66 walkable catchments

Walkable Catchment Name	Median land value ($/m2)	Quartile range	Score
Walkable Catchment 1	$3,562	Upper	3
Walkable Catchment 2	$1,809	Middle	2
Walkable Catchment 3	$1,370	Lower	1
Walkable Catchment 4	$701	Below first quartile	0

Table 6: Residential Demand Scoring

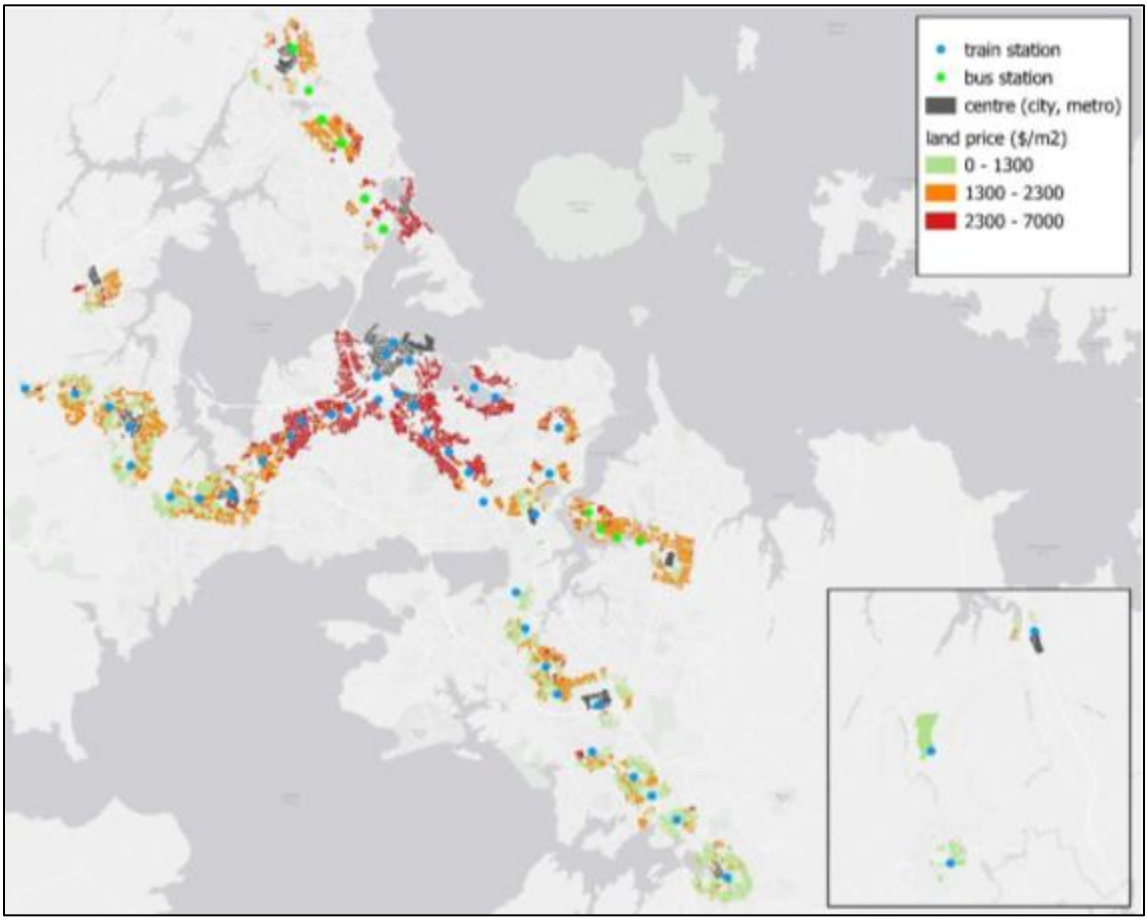


Figure 2: Zone-adjusted land values per square metre ($/m2) within walkable catchments

1.2. How might the MCA outcome change by applying a different weighting for each criterion?

The Ministry's guidance[10] outlines that increased heights could be appropriate in locations where there is high demand, and in proximity to the city centre or metropolitan centres serviced by rapid transit. Further intensification could be enabled in the most accessible locations. The guidance outlines that a location does not need to have both good accessibility and residential demand to be considered for intensification, it could have one or the other or both.

The four criteria used in the MCA (strategic importance, accessibility, concentration of amenities, and residential demand) are discussed above.

Weighting can be introduced into any multi criteria analysis to represent those criteria that hold greater significance to inform decision making. While all four of the criteria are considered important and necessary to form part of the decision making, given the Ministry's guidance and corresponding legislation, greater weighting was placed on the criteria related to accessibility, residential demand and the concentration of amenities. The total weighted score was used to inform the final ranked order of the walkable catchments.

1.3. How might the scores from the multi criteria analysis be used to determine the spatial extent of intensification?

Total MCA scores for each walkable catchment were ranked and then grouped generally with the highest scoring locations considered most appropriate for the most additional height (beyond six storeys), the second grouping considered appropriate for some additional height, and the lowest scoring group retaining the six storey height.

In alignment with the RPS outcomes for urban form, generally the walkable catchments with the highest MCA scores and those most appropriate for additional height are located on the isthmus with the closest proximity to the city centre and/or metropolitan centres. These are locations with the highest accessibility and demand for land.

The next grouping of scores were generally the walkable catchments that are geographically on the fringes of the highest scoring locations. This creates a step down to the final grouping, which generally are located in the outer suburbs and are appropriate for the least intensification under Policy 3(c) (six storeys).

The most appropriate walkable catchments for additional height generally follow train lines and Auckland's bus rapid transit services[11] from the inner city outwards. The pattern of intensification along these routes typically steps down as the walkable catchments are located further from the city centre or metropolitan centres.

Multi -criteria Analysis Scoring of all 66 Walkable Catchments (attached)

[10] Ministry for the Environment. 2020. *Understanding and implementing intensification provisions for the National Policy Statement on Urban Development.* Wellington: Ministry for the Environment. Section 6.4.
[11] Bus rapid transit service is used to refer to the Northern and Eastern Busways

		TOTAL	Strategic Importance						Accessibility				Concentration of amenities					Residential demand	
Walkable Catchment Name	Type	Total Score (WEIGHTED)	FDS Node and JPA	Score	Level of Investment	Score	AT Station Typology	Score	Framework for Urban Access	Score	Jobs 45mins (-000s)	Score	Metro (ha)	Town Total (ha)	Local Total (ha)	Total (ha)	Score	Land Value	Demand Score
City Centre (1,200m)	City Centre	3.00	Node and JPA	3	Yes	3	A	3	0.857	3	165	3	200	26	-	226	3	$ 5,266	3
Karanga-a-Hape Train Station	Rapid Transit	3.00	Node and JPA	3	Yes	3	A	3	0.857	3	182	3	200	0	-	200	3	$ 4,799	3
Te Waihorotiu Train Station	Rapid Transit	3.00	Node and JPA	3	Yes	3	A	3	0.865	3	182	3	200	0	-	200	3	$ 5,266	3
Waitemata Train Station	Rapid Transit	3.00	Node and JPA	3	Yes	3	A	3	0.865	3	193	3	200	0	-	200	3	$ 5,266	3
Maungawhau Train Station*	Rapid Transit	2.90	Node and JPA	3	Yes	3	C	1	0.785	3	138	3	200	0	-	200	3	$ 3,850	3
Parnell Train Station	Rapid Transit	2.55	Node	2	Yes	3	C	1	0.761	2	142	3	200	7	-	207	3	$ 5,518	3
Newmarket Metropolitan Centre	Metro Centre	2.50	Node	2	No	0	B	2	0.861	3	168	3	35	12	2	49	3	$ 4,000	3
Grafton Train Station	Rapid Transit	2.45	Node	2	No	0	C	1	0.808	3	169	3	200	5	1	206	3	$ 4,228	3
Newmarket Train Station	Rapid Transit	2.30	Node	2	No	0	B	2	0.875	3	176	3	35	0	-	35	2	$ 4,089	3
Panmure Train Station	Rapid Transit	2.20	Node and JPA	3	Yes	3	C	1	0.739	2	128	2		14	-	14	2	$ 1,703	2
Glen Innes Train Station	Rapid Transit	2.10	Node and JPA	3	No	0	C	1	0.801	3	127	2		11	-	11	2	$ 2,171	2
Manukau Metropolitan Centre	Metro Centre	1.80	Node	2	Yes	3	B	2	0.698	1	45	1	62	0	-	62	3	$ 1,345	1
Greenlane Train Station	Rapid Transit	1.75	No	0	No	0	C	1	0.813	3	179	3		6	-	6	1	$ 3,562	3
Remuera Train Station	Rapid Transit	1.75	No	0	No	0	C	1	0.802	3	180	3		0	1	1	1	$ 4,000	3
Otahuhu Train Station	Rapid Transit	1.65	No	0	Yes	3	T	1	0.781	3	134	3		14	-	14	2	$ 1,023	0
Kingsland Train Station*	Rapid Transit	1.65	No	0	No	0	C	1	0.786	3	132	2		0	8	8	1	$ 3,661	3
Manukau Train Station	Rapid Transit	1.60	Node	2	Yes	3	B	2	0.723	1	61	1	62	0	-	62	3	$ 701	0
Albany Bus Station	Rapid Transit	1.60	Node	2	No	0	B	2	0.650	0	84	2	69	0	-	69	3	$ 1,809	2
Takapuna Metropolitan Centre	Metro Centre	1.60	No	0	No	0	N/a	0	0.767	2	81	2	21	0	1	22	2	$ 4,186	3
Henderson Metropolitan Centre	Metro Centre	1.60	No	0	Yes	3	B	2	0.733	2	23	-	51	0	5	56	3	$ 1,370	1
Ellerslie Train Station	Rapid Transit	1.55	No	0	No	0	C	1	0.857	3	166	3		2	-	2	1	$ 2,615	2
Orakei Train Station	Rapid Transit	1.50	No	0	No	0	E	0	0.781	3	145	3		0	-	0	0	$ 3,808	3
New Lynn Metropolitan Centre	Metro Centre	1.40	No	0	No	0	B	2	0.754	2	56	1	44	0	-	44	3	$ 1,422	1
New Lynn Train Station	Rapid Transit	1.40	No	0	No	0	B	2	0.762	2	60	1	44	0	-	44	3	$ 1,383	1
Henderson Train Station	Rapid Transit	1.40	No	0	Yes	3	B	2	0.682	1	23	-	51	0	-	51	3	$ 1,515	1
Albany Metropolitan Centre	Metro Centre	1.40	Node	2	No	0	B	2	0.611	0	36	-	69	0	8	77	3	$ 1,585	2
Penrose Train Station	Rapid Transit	1.35	No	0	No	0	T	1	0.788	3	169	3		0	-	0	0	$ 1,843	2
Smales Farm Bus Station	Rapid Transit	1.35	No	0	No	0	C	1	0.786	3	136	3		0	-	0	0	$ 2,470	2
Puhinui Train Station	Rapid Transit	1.30	Half	1	Yes	3	T	1	0.732	2	99	2		0	-	0	0	$ 1,382	1
Sylvia Park Metropolitan Centre	Metro Centre	1.30	No	0	No	0	B	2	0.743	2	102	2	21	0	3	24	2	$ 1,297	1
Morningside Train Station*	Rapid Transit	1.25	No	0	No	0	C	1	0.726	1	99	2		0	1	1	1	$ 2,850	3
Mt Albert Train Station**	Rapid Transit	1.25	No	0	No	0	C	1	0.749	2	84	2		3	-	3	1	$ 2,536	2
Sunnynook Bus Station	Rapid Transit	1.25	No	0	No	0	C	1	0.780	2	123	2		2	-	2	1	$ 2,099	2
Pakuranga Bus Station	Rapid Transit	1.25	No	0	Yes	3	C	1	0.687	1	39	1		11	-	11	1	$ 1,717	2
Baldwin Ave Train Station**	Rapid Transit	1.20	No	0	No	0	D	0	0.682	1	97	2		3	-	3	1	$ 2,670	3
Avondale Train Station	Rapid Transit	1.15	No	0	No	0	C	1	0.688	1	54	1		12	-	12	2	$ 2,005	2
Akoranga Bus Station	Rapid Transit	1.15	No	0	No	0	T	1	0.747	2	138	3		0	-	0	0	$ 2,585	2
Sylvia Park Train Station	Rapid Transit	1.10	No	0	No	0	B	2	0.749	2	118	2	21	0	3	24	2	$ 1,245	0
Westgate Metropolitan Centre	Metro Centre	1.05	Node and JPA	3	No	0	N/a	0	0.671	0	8	-	29	0	-	29	2	$ 1,340	1
Papatoetoe Train Station	Rapid Transit	1.05	No	0	No	0	C	1	0.777	2	84	2		11	-	11	1	$ 1,472	1
Constellation Bus Station	Rapid Transit	1.00	Half	1	No	0	T	1	0.719	1	111	2		0	-	0	0	$ 1,608	2
Meadowbank Train Station	Rapid Transit	1.00	No	0	No	0	D	0	0.696	1	134	2		0	-	0	0	$ 2,903	3
Te Taha Wai Bus Station (Edgewater	Rapid Transit	1.00	No	0	Yes	3	D	0	0.672	1	36	1		0	-	0	0	$ 1,580	2
Williams Ave Bus Station	Rapid Transit	1.00	No	0	Yes	3	D	0	0.618	0	49	1		11	-	11	1	$ 1,717	2
Manurewa Train Station	Rapid Transit	0.95	No	0	No	0	C	1	0.741	2	50	1		13	-	13	2	$ 1,057	0
Botany Metropolitan Centre	Metro Centre	0.90	No	0	No	0	N/a	0	0.721	1	38	1	23	0	-	23	2	$ 1,543	1
Drury Metropolitan Centre	Metro Centre	0.90	JPA	1	Yes	3	C	1	0.528	0	7	-	35	0	3	38	2	$ 1,164	0
Drury Train Station	Rapid Transit	0.90	JPA	1	Yes	3	C	1	0.632	0	16	-	35	0	3	38	2	$ 1,066	0
Papakura Train Station	Rapid Transit	0.90	No	0	No	0	B	2	0.727	2	32	-	24	0	-	24	2	$ 962	0
Sturges Rd Train Station	Rapid Transit	0.80	No	0	No	0	D	0	0.583	0	18	-	51	0	-	51	3	$ 1,370	1
Koata Bus Station (Gossamer Bus S	Rapid Transit	0.80	No	0	Yes	3	D	0	0.624	0	37	1		0	-	0	0	$ 1,575	2
Glen Eden Train Station	Rapid Transit	0.75	No	0	No	0	C	1	0.751	2	42	1		10	-	10	1	$ 855	0
Pukekohe Train Station	Rapid Transit	0.75	No	0	Yes	3	C	1	0.618	0	9	-		15	-	15	2	$ 615	0
Papakura Metropolitan Centre	Metro Centre	0.70	No	0	No	0	B	2	0.712	1	21	-	24	0	-	24	2	$ 1,057	0
Fruitvale Rd Train Station	Rapid Transit	0.70	No	0	No	0	D	0	0.679	1	44	1		0	2	2	1	$ 1,289	1
Middlemore Train Station	Rapid Transit	0.70	No	0	Yes	3	D	0	0.717	1	121	2		0	-	0	0	$ 1,148	0
Rosedale Bus Station	Rapid Transit	0.70	Half	1	Yes	3	T	1	0.446	0	10	-		0	-	0	0	$ 1,307	1
Pohatu Bus Station (Burswood Bus S	Rapid Transit	0.50	No	0	Yes	3	D	0	0.647	0	33	-		0	-	0	0	$ 1,413	1
Homai Train Station	Rapid Transit	0.45	Half	1	No	0	D	0	0.709	1	76	1		0	1	1	0	$ 1,173	0
Ranui Train Station	Rapid Transit	0.40	No	0	No	0	D	0	0.657	0	21	-		0	3	3	1	$ 1,300	1
Swanson Train Station	Rapid Transit	0.40	No	0	No	0	E	0	0.626	0	16	-		0	1	1	1	$ 1,358	1
Takaanini Train Station	Rapid Transit	0.30	No	0	No	0	D	0	0.697	1	43	1		0	-	0	0	$ 976	0
Te Mahia Train Station	Rapid Transit	0.30	No	0	No	0	D	0	0.667	0	48	1		0	2	2	1	$ 1,098	0
Ngākōroa Train Station	Rapid Transit	0.30	No	0	Yes	3	D	0	0.358	0	3	-		0	-	0	0	$ 781	0
Paerata Train Station	Rapid Transit	0.30	No	0	Yes	3	D	0	0.364	0	7	-		0	-	0	0	$ 496	0
Sunnyvale Train Station	Rapid Transit	-	No	0	No	0	D	0	0.645	0	25	-		0	0	0	0	$ 1,194	0
WEIGHTED %	1.00			**0.15**		**0.10**		**0.05**		**0.20**		**0.10**					**0.20**		**0.20**

* Represents a walkable catchment that is legislated to 15 storey or 50 m under the RMA Amendment Act 2025.

** Represents a walkable catchment that is legislated to 10 storey or 34.5m under the RMA Amendment Act 2025.

STRATEGIC IMPORTANCE:
Strategic importance considered the location of the walkable catchment relative to the strategic direction within The Future Development Strategy 2023-2053 (FDS). This included consideration of the walkable catchment's location within nodes or joint priority areas.
Recent and future investment by Auckland Transport and the station type was also considered. This includes major investment within the past 10 years and over the next 10 years, in addition to the station type.

ACCESSIBILITY :
This criterion makes use of Auckland Council's Framework for Urban Access tool (**FUA**). Accessibility by walking and public transport to a range of amenities is considered, including parks, education, supermarkets and between homes and jobs. This does not include access by private vehicle.

CONCENTRTION OF AMENITIES:
The size (area of zoning) of a metropolitan, town or local centre was considered as an indication of the level of activities and services in a centre. The use of area of zoning accounts for potential change to the areas of commercial activities and community services within a centre over time. The larger total zoned footprint area in a centre the higher the greater, or the more enabling and greater the potential the level of activities and services within a centre.

RESIDENTIAL DEMAND:
This criterion provides an indication of where residential demand is highest based on median land values. All zoning was stripped out from analysis of land values so to provide a true reflection of demand (i.e. are prepared to pay more for a certain location). The analysis of residential demand considers factors that make land more attractive and is based on general factors such as concentration of amenities, access to jobs and public transport, it also considers access via private vehicle.

Appendix 23

Auckland Transport Technical Memo

Memorandum

Auckland Transport
An Auckland Council Organisation

To:	Auckland Council
From:	Patrick Buckley Spatial Planning and Policy Advice Manager
Date:	22 October 2025
Subject:	Plan Change 120 – Intensification workstream

1. Purpose

To outline Auckland Transport's (AT) position and associated input on the Intensification section of Plan Change 120 (PC 120).

2. Overview

AT has been involved in the PC 120 workstream from its inception including its previous incarnation as Plan Change 78 (PC 78). AT's advisory role is focused on transport elements of the plan change particularly regarding:

- **Rapid Transit Definition** – Confirming what is a Rapid Transit service, what services meet the definition in the Auckland region.
- **Height workstream** – Investigating increasing the height limits above the National Policy Statement on Urban Development (NPS UD) minimum (6 Storeys) within the walking catchments of Rapid Transit Stations.
- **Frequent Transport Corridor** – Frequent Transport Network information (corridor locations, frequency, operational matters), route selection (including optioneering)
- **Wider zoning principles** – Alternative to the Medium Density Residential Standards (MDRS), using accessibility to inform the upzoning of Auckland's suburbs.
- **Zoning Chapters** – Review and commentary on various zoning chapters, detail of various inputs contained in main s32 report.

Overall, AT supports the proposed zoning response detailed in PC 120, recognising the intent of the NPS-UD and the government's urban density requirements for Auckland.

Accessibility is used as the primary metric to guide increased urban density, with intensification focused around Rapid Transit Network (RTN) stations, metropolitan centres, local centres, and along key transport corridors. This approach aligns with Auckland Transport's Regional Public Transport Plan (RPTP), which promotes stronger integration between land use and public transport, particularly additional density around RTN stations.

While this approach will lead to widespread upzoning across Auckland suburbs and place pressure on existing infrastructure, it is considered a more targeted and appropriate response compared to the broad-brush MDRS approach proposed under Plan Change 78.

No formal transport assessment has been undertaken to quantify the effects of the proposed upzoning. To ensure the transport network can operate effectively, further transport investment along with revision to Auckland Unitary Plan (AUP) will be required to support the increased density.

3. Rapid Transit Service Definition

The Auckland Rapid Transit Pathway (ARTP)[1] defines a rapid transit service as:

Rapid transit provides fast, frequent, and reliable high-capacity access along dedicated strategic corridors that are largely separated from other modes and unaffected by congestion. Rapid transit is the backbone of Auckland's public transport network and is critical to supporting and shaping its growth and urban form.

NPS-UD defines a rapid transit service as:

Any existing or planned frequent, quick, reliable and high-capacity public transport service that operates on a permanent route (road or rail) that is largely separated from other traffic.

The Auckland region has five rapid transit services that meet these definitions, these corridors are:

- The Auckland Passenger Rail network (Western, Southern, Eastern) of the heavy rail network between Swanson and Pukekohe (including the City Rail Link)
- The Northern Busway.
- The Eastern Busway.

A full list of the associated stations along these RTN lines are included below:

1. Akoranga Bus Station
2. Albany Bus Station
3. Avondale Train Station
4. Baldwin Ave Train Station
5. Constellation Bus Station
6. Ellerslie Train Station
7. Fruitvale Rd Train Station
8. Glen Eden Train Station
9. Glen Innes Train Station
10. Grafton Train Station
11. Greenlane Train Station
12. Henderson Train Station
13. Homai Train Station
14. Kingsland Train Station
15. Manukau Train Station
16. Manurewa Train Station
17. Meadowbank Train Station
18. Middlemore Train Station
19. Morningside Train Station
20. Mt Albert Train Station
21. New Lynn Train Station
22. Newmarket Train Station
23. Orakei Train Station
24. Otahuhu Train Station
25. Panmure Train Station
26. Papakura Train Station
27. Papatoetoe Train Station
28. Penrose Train Station
29. Puhinui Train Station
30. Pukekohe Train Station
31. Ranui Train Station
32. Remuera Train Station
33. Parnell Train Station
34. Smales Farm Bus Station
35. Sturges Rd Train Station
36. Sunnynook Bus Station
37. Sunnyvale Train Station
38. Swanson Train Station
39. Sylvia Park Train Station
40. Takaanini Train Station
41. Te Mahia Train Station
42. Waitemata Train Station
43. Williams Ave Bus Station

[1] at.govt.nz/media/hmedfx0s/akl-rapid-transit-plan-report.pdf

3.1. Planned vs Future Rapid Transit Stations

Te Ara Hauāuru – Northwest Busway, Airport to Botany Rapid Transit and the Eastern Busway are proposing to deliver additional rapid transit services. To determine which services and associated stations meet the *planned* definition under the NPS-UD, the following criteria was utilised to inform PC120:

- Funding for the physical infrastructure and the service must be identified in the Regional Land Transport Plan ('RLTP'); and
- The route is shown as being a rapid transit network in the RLTP; and
- A Notice of Requirement (for a designation) has been confirmed for the station location.

The resulting assessment concluded the following:

- Te Ara Hauāuru – Northwest Busway has funding under the RLTP but does not have a designation confirmed so doesn't meet the definition.
- Airport to Botany Rapid Transit does have a confirmed designation but does not have funding in the RLTP so doesn't meet the definition.
- Due to the delivery status of Eastern Busway, the majority of the stations meet the definition and are to be included in PC120. Botany station is excluded due to not having RLTP funding.

AT supports the use of these criteria, analysis and resulting conclusion detailed in section 3 of the Intensification Section 32 report. Acknowledging future plan changes will be required to rezone walking catchments for applicable stations when these projects progress and meet the aforementioned criteria.

3.2. Walkable Catchments

Encouraging intensification around transport nodes is a positive zoning change, resulting in improved land use and transport integration opportunities for these locations and greater alignment with the Auckland Plan and the growth aspirations of being a quality compact city.

AT supports the proposed intensification around key RTN stations increasing building height limits to 10 and 15 storeys for the selected stations. This includes advocacy for maximising density around the City Rail Link stations and other strategically important stations that have benefited from substantial public investment.

AT was involved in following workstream elements:

- Definition of the walkable catchment (including principles regarding how catchments interface)
- RTN Station optioneering – station selection for additional height limits

3.2.1. Definition of Walkable Catchment

AT agrees with the approach taken to define walkable catchments as outlined in Section 6 of the Intensification Section 32. AT inputted to the definition during the development of PC 78 and understands this approach has remained unchanged. Using public roads or public pedestrian access ways to inform the walkable catchments is supported, further noting AT maintains and progressively improves walking infrastructure to service growth and respond to specific operational issues (i.e safety).

The guidance for setting the walkable catchment is in line with Policy 3(c) of the NPS UD requirements and has incorporated feedback from previous Plan Change 78 submissions.

Principles regarding how catchments interface have been developed, AT provided input to the principles and supports the current approach.

3.2.2. RTN Station Optioneering

To identify suitable stations for increased height limits within walkable catchments, a multi-criteria analysis (MCA) was undertaken. AT input to the RTN Station MCA process is summarised below:

- Supported the use of the Framework for Urban Access (FUA) (an Auckland Council tool) to inform the accessibility criterion.
- Advocated for higher density around City Rail Link (CRL) stations and stations along the Western Rail Line.
- Recommended the review and potentially reduction / removal of qualifying matters that may unnecessarily constrain development within the walkable catchments of these stations.
- Provided the data for RTN station current and future improvement state criterion (detailed in section 3.2.1 below).
- Supported the use of the Auckland Rapid Transit Station Study[2] to inform the strategic importance criteria.
- Reviewed and provided feedback on the MCA criteria and critiqued some scoring.

Overall AT supports the MCA process and the associated optioneering outputs detailed in the Intensification Section 32 report.

3.2.2.1. Station Investment Criteria

Part of the MCA process, a criterion to articulate the current and future improvement state of each RTN station was proposed. Detail of this criterion is outlined in **Table 1** below.

Table 1: RTN station current and future improvement state criteria details

Criterion	Criterion Information
RTN station current and future improvement state	· If the Station was built / upgraded within the last ten years. · If the Station will be built / upgraded in the next ten years. · Includes major station upgrades, excludes minor access / facility improvement works.

From the list of the applicable RTN stations defined by the NPS-UD, the following stations contained in **Table 2** met the criteria (at the time of assessment July 2025). This information was provided by AT, how this information was scored (and weighted) was defined by the project team.

[2] https://at.govt.nz/about-us/reports-publications/auckland-rapid-transit-station-study

Table 2: RTN Station details

RTN Station	New or Upgrade	Detail of Improvements
Karanga-a-Hape Train Station	New CRL Station	Delivered by City Rail Link, opening 2026
Te Waihorotiu Train Station	New CRL Station	Delivered by City Rail Link, opening 2026
Waitemata Train Station	Upgraded as a part of CRL works	Ongoing Improvements associated with CRL
Maungawhau Train Station	Upgraded as a part of CRL works	Delivered by City Rail Link opening 2026
Manukau Train Station	Major transport interchange for bus and rail	Upgraded in 2018
Parnell Train Station	New Train Station	Opened in 2017
Panmure Train* Station	Major transport interchange for bus and rail	Upgraded in 2014
Henderson Train Station	Major upgrades to platforms (extension and new platform)	Expected completion in 2026
Otahuhu Train Station	Major transport interchange for bus and rail	Rail and Bus station upgraded completed in 2018
Puhinui Train Station	Major transport interchange for bus and rail	Upgraded in 2021
Rosedale Bus Station	New Busway Station	Preparing for construction, estimated completion 2028
Williams Avenue	New Eastern Busway Station	Completed in 2021, currently operational
Pakuranga Station	New Eastern Busway Station	Opening in 2027
Te Taha Wai station, Edgewater	New Eastern Busway Station	Opening in 2027
Koata station, Riverhills	New Eastern Busway Station	Opening in 2027
Pohatu Station, Burswood	New Eastern Busway Station	Opening in 2027

Pukekohe Train Station	Major transport interchange for bus and rail	Completed in 2025 associated with electrification works
Drury Train Station	New Rail Stations (Drury Railway Station, Ngākōroa and Paerātā)	Drury Railway Station and Paerātā 2026, Ngākōroa 2027
Middlemore Train Station	Major station upgrade including new island platform	Complete 2025 associated with Wiri to Quay Park third main

*Panmure Station upgrade was completed in 2014 however due to the scale of the improvement and associated Eastern busway improvements it was included.

4. Intensification Along Corridors

During the development of PC78, the concept of intensifying along corridors with frequent bus services was introduced to supplement mandatory NPS UD zoning requirements. Recognising the corridor intensification concept is utilised in the Auckland Unitary Plan (AUP), along various sections of arterial roads. The concept was progressed as a wider zoning response under Policy 3 of the NPS UD, and the project team collaborated with AT on various parameters.

AT confirmed the Auckland Regional Public Transport Plan[3] provides the strategic basis to support for this workstream noting the following factors:

- Using the 2031 Frequent Transit Network (FTN) was recommended, AT have committed funding to service this network and has a high level of certainty these services will be retained and improved.
- The definition of an FTN service is:
- *The core of the bus network, operating at least every 15 minutes between 7am and 7pm, 7 days a week. All rapid services are also frequent services. Frequent services carry the largest numbers of people and are generally supported by priority such as bus or transit lanes (including priority signals), which help to ensure they are less affected by congestion than other services.*
- Auckland currently has 43 FTN routes, covering around 45% of the population.
- Ongoing investment in the FTN corridors is proposed specifically:
    - Continued roll out of new bus and transit lanes to help buses avoid congestion and give customers a faster journey
    - Continuing roll out of the bus boost programme, where busing running late send a signal to traffic lights to go to green or stay green longer so the bus make through the intersection
- It is expected that, by 2031, there will be in excess of 50 FTN routes, covering nearly 60% of the Auckland population. Frequent routes will be added to serve new infrastructure such as new stations at Drury, Rosedale and Paerata.
- Acknowledgment not all FTN routes (or sections of routes) would be potentially suitable for upzoning and a selection process would be required.

[3] https://at.govt.nz/about-us/transport-plans-strategies/regional-public-transport-plan-2023-2031-rptp

- AT supports the operation of the FTN function by managing access onto the corridor. However, it is acknowledged further interventions are required to better support the movement function of the arterial roads (and potentially collector roads). To achieve this objective, further change to the AUP is potentially required to strengthen vehicle access provisions, enforcing (where appropriate) access onto side roads and promoting access consolidation. To support the AUP rules, a specific bylaw could also be utilised to manage this issue.

Overall AT supported the MCA process and the associated optioneering outputs detailed in the main Intensification Section 32 report.

4.1. Corridor Optioneering

Similar to the station height workstream, the selection of FTN corridors was informed by an MCA process. AT was involved in the development of the MCA criteria and provided various comments and information to inform scoring.

Development of the MCA focused criteria that would identify sections of FTN corridors that would perform highly into the future, primarily focusing on understanding frequency of buses and general accessibility / centre connectively as opposed to indicators which potentially can be altered (e.g. number of bus stops).

4.2. Bus frequency Criteria

FTN bus frequency information was provided by AT for analysis by the project team and is detailed in **Table 3** below. How this information was scored (and weighted) was defined by the project team.

Table 3: Bus Frequency Information

Bus frequency information
· Bus frequency across post-CRL network 0700-0900 · Data extracted from Podaris (PT analytics software) using AT GTFS data

5. Wider Residential Zoning Principles

To achieve density targets the widespread application of Mixed Housing Urban zoning is proposed (approximately 46% of residential zoning). This alternative approach to the MDRS has utilised the FUA framework as a primary metric to upzone areas with better accessibility. Generally, as a concept using this accessibility metric to inform the proposed zoning pattern is supported by AT.

6. Plan Change Transport Risks

While AT acknowledges that the proposed zoning mix (particularly the increased intensification around RTN stations, centres, and corridors) is a logical approach to achieving the Government's urban growth targets, the broad upzoning of most urban areas in Auckland will place substantial pressure on the transport network, exacerbating existing growth-related issues primarily congestion and parking related issues. Having the potential to reinforce a car-dominated transport environment and reduce overall accessibility and liveability for Aucklanders.

To ensure the network can operate effectively, a range of interventions will be required to manage these issues, including:

- Substantial region wide investment in public transport, walking, and cycling infrastructure/services to support growth.

- Stronger AUP controls to support the implementation of Future Connect (AT's Transport Network Plan) and manage adverse impacts of growth e.g. strengthened vehicle access controls for arterial roads
- Other tools to control growth related effects associated with growth (outside of the AUP) e.g. Bylaws controls

AT will work with AC to respond to these aforementioned issues to support the proposed zoning change.

Appendix 24

Measuring relative demand for residential land across walkable catchments

Auckland Council Chief Economist

NOTE: Ngākōroa Train Station (walkable catchment) is not included in the following memo, however it is confirmed that the absence of Ngākōroa Train Station from the analysis only impacts the sequence of the relatively lower demand catchments by one place. Median land value for Ngākōroa for the purpose of the Multi-criteria Analysis (MCA), was based on its position between Dury Station and Paerātā Station. Refer to **Appendix 22** MCA for further detail.

8 May 2025

Memo

To Ryan Bradley, Phill Read, Peter Vari, Anna Solomon

From: Gary Blick, Chief Economist

Re: Measuring relative demand for residential land across catchments

1. This memo responds to your request for information on the relative demand for land across walkable catchments, expressed through land values after adjusting for the effect of zoning. The purpose is to inform advice on options to enable intensification through more height.

Method

2. The Chief Economist Unit has developed a model to estimate the land value per square metre for residential land across Auckland. The model controls, statistically, for the effect that the existing zones and the Special Character Area overlay have on land values (enabling more density increases the value, as the land can be used more productively).
3. More specifically, the model employs a regression method to estimate residential land values per square metre—using the ratings valuation data—as a function of locational fixed effects at the meshblock level and zoning designations. The resulting zone-adjusted land values are at the meshblock level.
4. The catchments were identified using the supplied list and distances: city centre (1,200m), metropolitan centres (800m) and rapid transit network stations (800m). The median land value for each catchment was then ranked to show the relative demand for residential land.

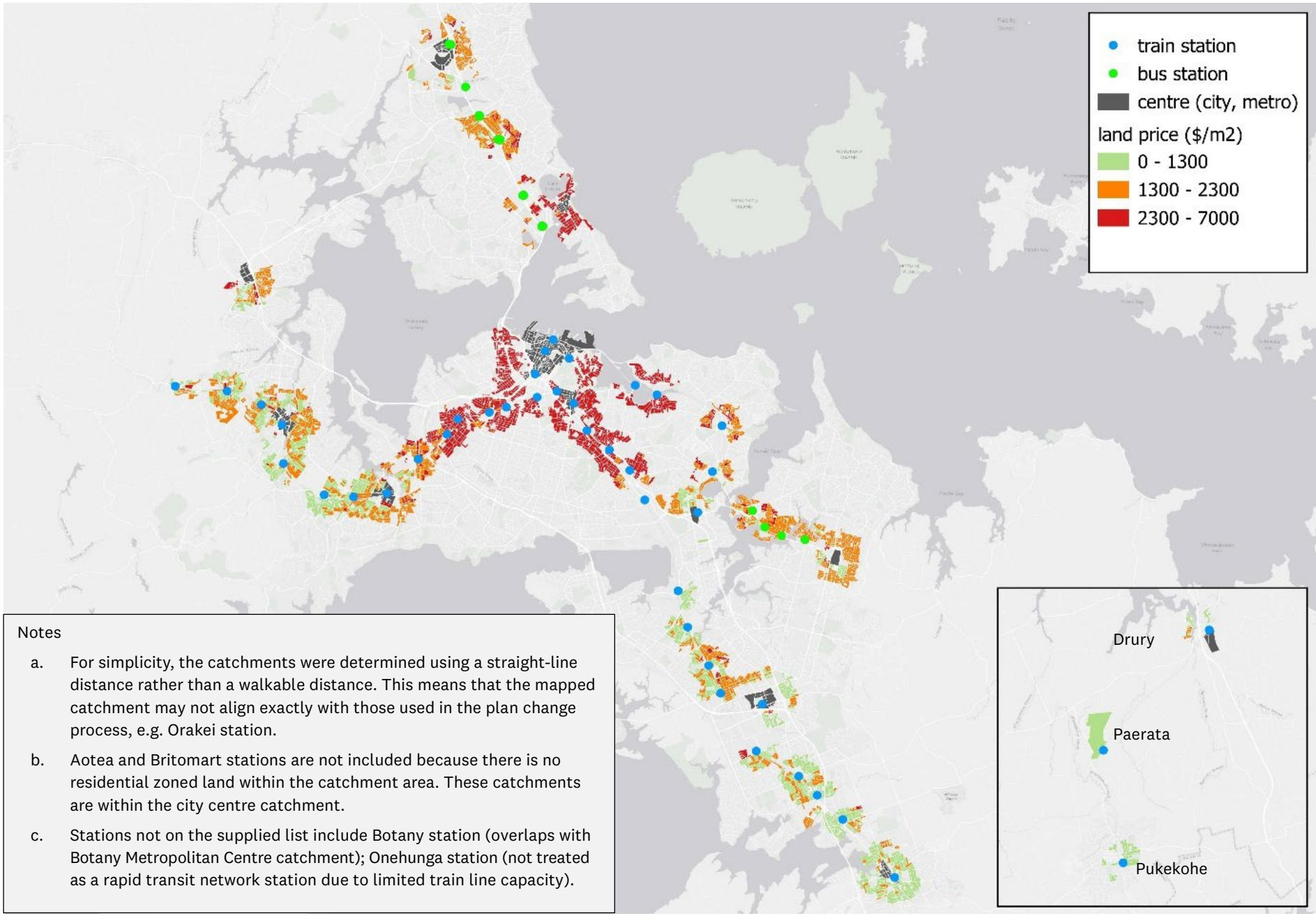
Results

5. Figure 1 maps the estimated land values within each catchment, grouped into three bands. Each colour (green, orange, red) representing a band of land values per square metre from low to high. Some catchments are mainly high, medium or low land values, while others have a greater mix of land values, for example, New Lynn has values in all three bands.
6. Figure 2 ranks the median land value for each catchment. The highest ranked are Parnell station and the city centre. There are some visible breaks in the ranked order of demand, for example, between Greenlane and Meadowbank, and between Smale's Farm and Glen Innes. The clusters of catchments between these breaks comprise some similarly demanded land.

Interpretation

7. These land values are a good approximation of the relative demand for land, after accounting for the effect that zoning has on land value. The relativities represent differences in access to the things people value, such as amenities, jobs and transport. Locations with higher land values offer better access to some, or all, of these things.
8. These results provide an evidence base for prioritising considerations of additional height within catchments. Capacity added in higher demand locations is more likely to be feasible for new homes and to allow more people to locate nearer to things they value.
9. Where catchments are within the same cluster, there is a good case for considering the same, or similar, level of enablement. given that they are demanded to a similar extent.

Figure 1: Zone-adjusted land values per square metre within walkable catchments



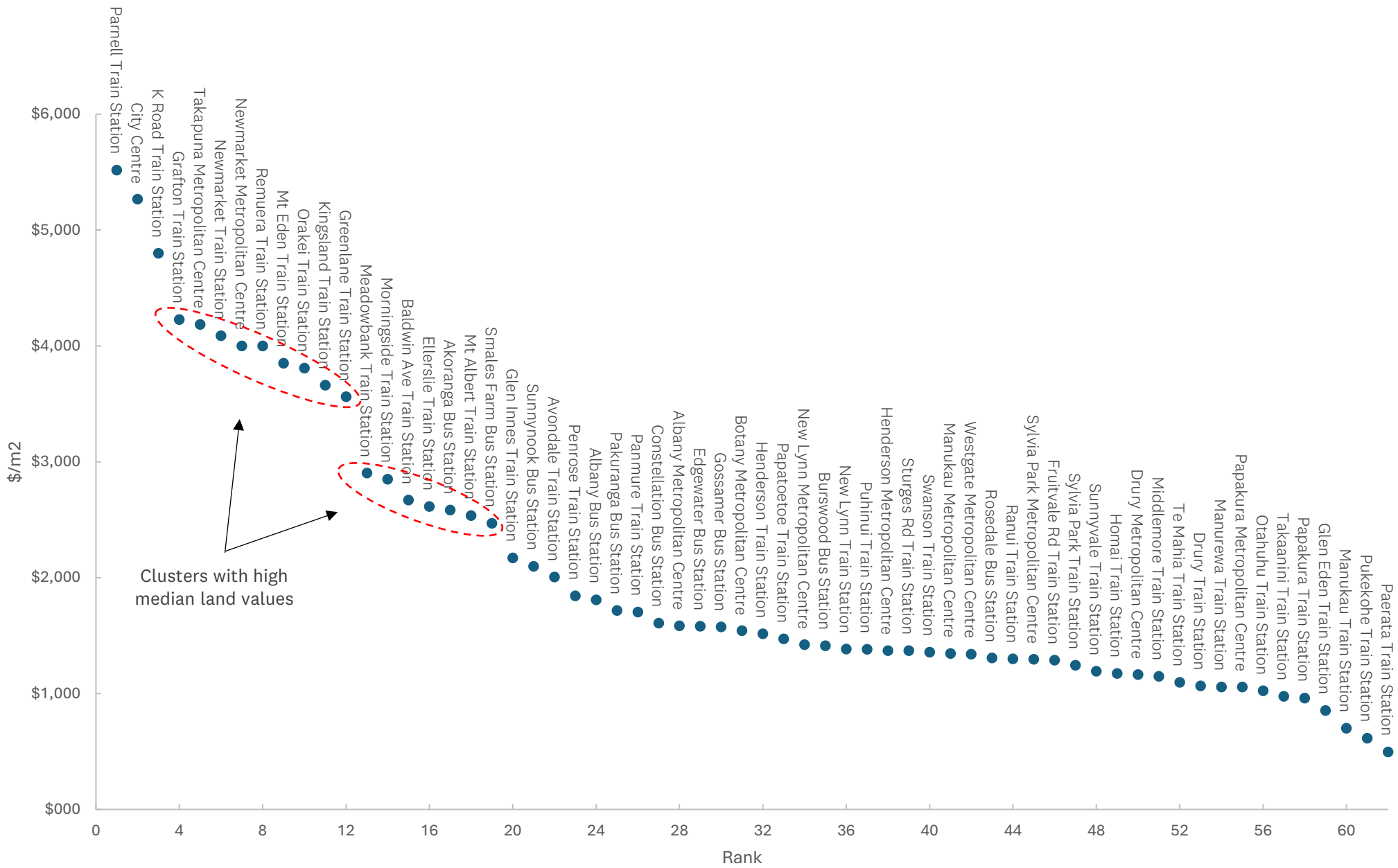
Notes

a. For simplicity, the catchments were determined using a straight-line distance rather than a walkable distance. This means that the mapped catchment may not align exactly with those used in the plan change process, e.g. Orakei station.

b. Aotea and Britomart stations are not included because there is no residential zoned land within the catchment area. These catchments are within the city centre catchment.

c. Stations not on the supplied list include Botany station (overlaps with Botany Metropolitan Centre catchment); Onehunga station (not treated as a rapid transit network station due to limited train line capacity).

Figure 2: Ranked median land values in walkable catchments



Appendix 25

Measuring demand for land across FTN corridors, Auckland Council's Chief Economist

30 May 2025

Memo

To Ryan Bradley, Anna Solomon, Louise Barclay

From: Gary Blick, Chief Economist

Re: Measuring relative demand for residential land across FTN corridors

1. This memo responds to your request for information on the relative demand for land across Frequent Transit Network (FTN) corridors, expressed through land values after adjusting for the effect of zoning. The purpose is to inform advice on options to enable intensification. It build on similar analysis undertaken on the walkable catchments around centres and the rapid transit network stations, as advised in the memo of 8 May 2025.

Method

2. The Chief Economist Unit has developed a model to estimate the land value per square metre for residential land across Auckland. The model controls, statistically, for the effect that the existing zones and the Special Character Area overlay have on land values. This is to recognise that urban land becomes more valuable when greater development potential is enabled, as the land can be used more productively.
3. The model employs a regression method to estimate residential land values per square metre, using the ratings valuation data. It controls for zoning designations and local factors by incorporating fixed effects at the meshblock level. This approach gives zone-adjusted land values that isolate underlying land value by removing the effects of zoning differences and neighbourhood-specific factors.
4. This analysis uses the supplied list of FTN corridors with the defined distance of 200m on either side.[1] For simplicity, straight line distances were used. The spatial extent of some of the FTN corridors means that the median land value may not capture the variation in demand for land along a corridor. Certain segments have much higher (or lower) demand than others, and so the distribution is presented to show the variation.

Results

5. Figure 1 maps the estimated land values within each corridor, grouped into four bands. Each colour (blue, green, orange, red) represents a band of land values per square metre from low to high. Some corridors are mainly higher or lower land values, while others have a greater mix of land values, for example, Glen Innes to Orakei via Bays (Tamaki Link).
6. Figure 2 is a box and whisker plot that compares land values across each corridor. The box represents the middle 50% of values, with the line inside showing the median. The whiskers indicate the full range of values. Corridors are ranked by **median** land value. A high median with a short range suggests strong, consistent demand across the corridor. In contrast, a wider range or lower median points to more variation or lower overall demand. The background colours match the classification used in the map.
7. Figure 3 ranks the corridors by **maximum** land value. The ranking of maximum land values differs somewhat from the ranking of median land values, for example 'Albany to Browns Bay' ranks 41st on median land value but 14th on maximum land value.

[1] Three supplied FTN corridors were not included as they did not overlap with residential land modelled: "Drury Centre – Waihoehoe – Drury East", "University to Albany", and "Waiheke"

Interpretation

8. Demand represents people's preferences. It is expressed through land values, which show the relative weight of preferences across locations. The land values provided here reveal the pattern of demand, after accounting for zoning and neighbourhood-specific effects. Differences in land values reflect variations in proximity to jobs, transport, and amenities, which are **capitalised into the land value**. Locations with higher land values offer better access to these things. The land values can be expected to also reflect future infrastructure improvements, either signalled or under construction, that offer benefit to a location.
9. These results are a robust evidence base for prioritising additional development capacity within FTN corridors. If options for additional enablement are set at the corridor level, then corridors ranked with the highest demand should be prioritised.
10. Adding capacity in high-demand locations is more likely to lead to feasible development and enable more people to live closer to the things they value. Corridors ranked within the same cluster have similar levels of demand and so similar levels of zoning enablement would represent a consistent and demand-driven approach.
11. The corridors below rank highly on both the median and maximum land value metrics, which indicates there is higher demand along those corridors compared with others.

College Hill and Ponsonby Road
St Marys Bay to Ponsonby
Pt Chevalier Rd to Jervois Rd (Westmere - Herne Bay)
Great North Road (Ponsonby to Motat)
Smales Farm – Takapuna – Milford
Greenlane - Newmarket (GSR)
Mt Eden to Sandringham Rd via Valley Rd Shops
St Johns - Remuera - Newmarket
Greenlane East (Remuera Rd to Greenlane)
Glen Innes to Orakei via Bays (Tamaki Link)
Mt Eden to Three Kings (Mt Eden Rd)
Onehunga - Newmarket (Manukau Rd)
Dominion Road (Mt Eden to Mt Roskill)
St Lukes to Great North Rd (via Morningside and Kingsland)
Greenlane - Western Springs (Via Balmoral)
Sandringham Rd (Newton to Sandringham)
Ellerslie - Greenlane
Lake Road: Takapuna – Devonport
Glen Innes - Orakei (76)
Glen Innes - St Johns
Sylvia Park - Pt Chev via Mt Albert Rd (66)
New North Road (Morningside to Avondale)
Panmure - Ellerslie
Northcote – Takapuna
Great North Road (Pt Chev, Avondale, New Lynn)
Constellation to Mairangi Bay
Howick to Pakuranga
Mairangi Bay to Browns Bay
Ormiston Town Centre to RUB
Howick to Botany (via Meadowlands, Botany Rd)

Figure 1: Zone-adjusted land values per square metre within FTN corridors

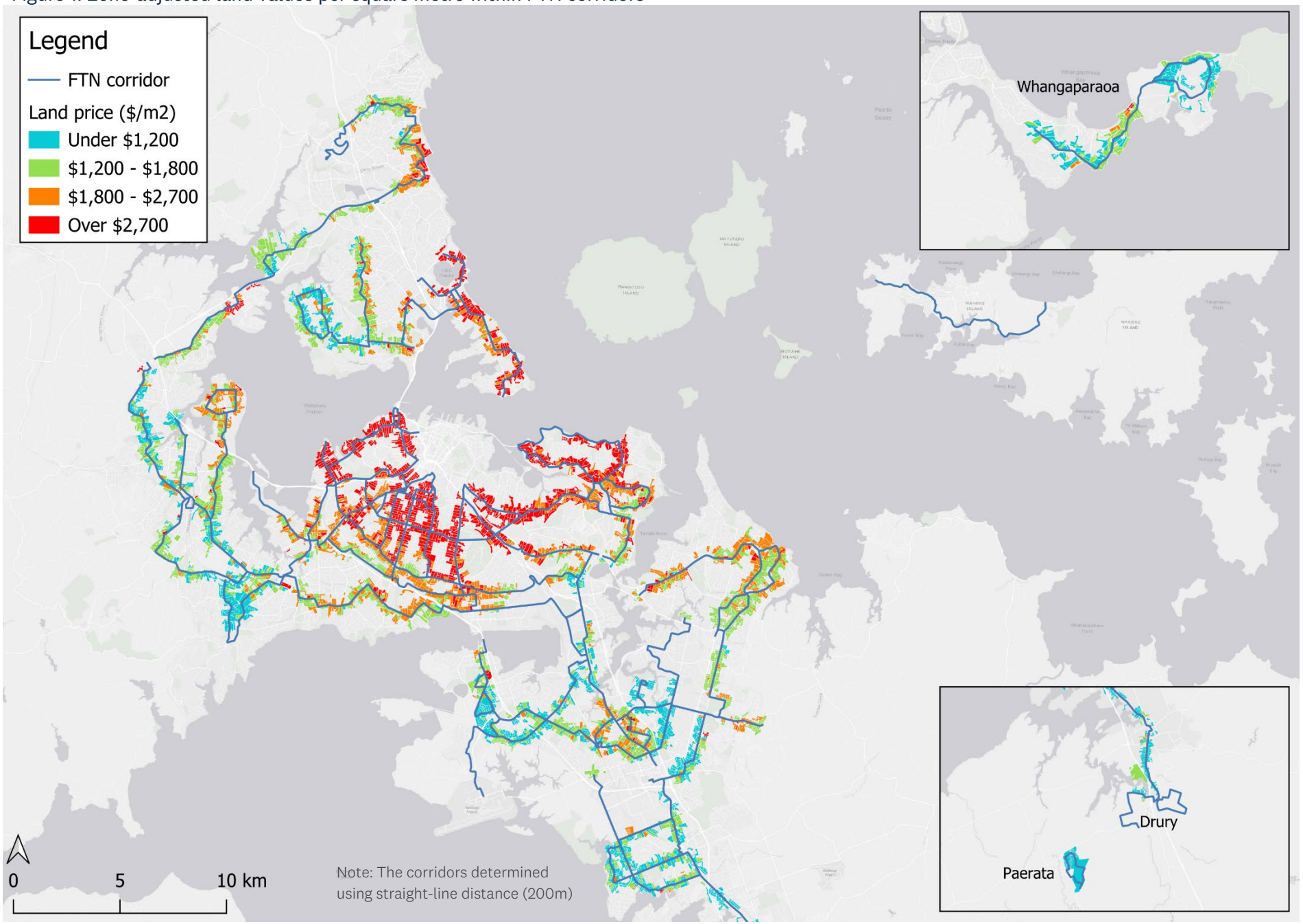
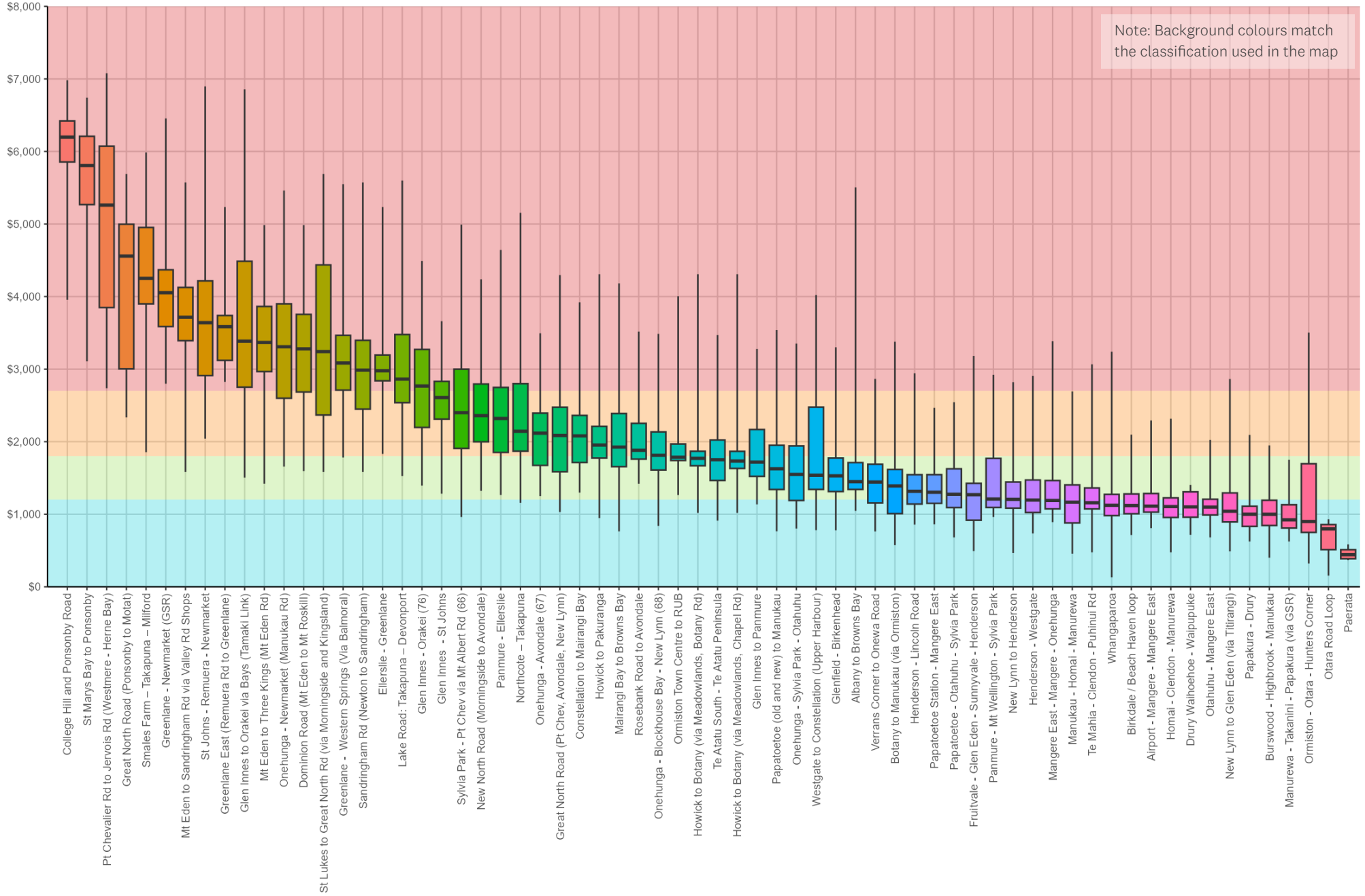


Figure 2: Box-and-whisker plot of zone-adjusted land values per square metre by FTN corridor, ranked by **median** value



Note: box-and-whisker plots identify five summary statistics for the land value of each corridor. From the top to bottom these are: the maximum, the upper quartile (75th percentile), the median, the lower quartile (25th percentile) and the minimum. There is an equal number of land value observations between each statistic. A large range between the minimum and maximum value suggests a wide range of land values in that corridor and vice versa.

Figure 2: Box-and-whisker plot of zone-adjusted land values per square metre by FTN corridor, ranked by **maximum** value