

City of Port Phillip Principal Pedestrian Network

Prepared by Tract Consultants
for the City of Port Phillip



Contents

01	Introduction	3
1.1	Strategic Context	3
1.2	Overview	3
1.3	Project Methodology	4
1.4	PPN Pilot Project, 2011-12	5
1.5	Integration with VicRoads SmartRoads Network Operating Plans	5
02	Pedestrian Access Mapping Analysis	6
2.1	Mapping Methodology	6
2.2	Limitations of the Pedestrian Access Mapping	6
2.3	Mapping Results	6
03	Mapping Validation and Verification	17
3.1	Future Land Use and Population Projections	17
3.2	Pedestrian Counts	20
04	Principal Pedestrian Network	22
4.1	Delineating the PPN	22
05	Next Steps and Future Work	24
5.1	Walk Plan 2011-2020	24
5.2	VicRoads' SmartRoads Network Operating Plan	24
5.3	Gaps Analysis and PPN Action Plan	24
5.4	Collaboration and Partnerships	24
	APPENDIX A PEDESTRIAN COUNT DETAILS - MAY 2012	27
	APPENDIX B PEDESTRIAN COUNT DETAILS - MARCH 2013	30
	APPENDIX C LIST OF PRIMARY DESTINATIONS	34

01 INTRODUCTION

1.1 Strategic Context

A key objective of strategic planning policy of the City of Port Phillip (CoPP) is to encourage walking for transport, including walking to public transport, to help reduce vehicle use and traffic congestion, promote healthy lifestyles and create socially interactive and vibrant communities.

In terms of strategic land use planning, encouraging walking focuses on creating walkable neighbourhoods by ensuring neighbourhoods are well served by activities areas and services such as open space and schools, and increasing population density in and around these activities areas.

However, just because people live within walking distance to particular destinations does not mean that they will in fact walk to them. In order to fully encourage and facilitate walking for transport, walking needs to be an efficient and attractive mode of transport so that is chosen over a car.

This means providing a safe and enjoyable environment for pedestrians and giving priority to pedestrians within the transport network. For this reason, it is important that the opportunities and key routes for walking for transport are well understood and planned for.

1.2 Overview

The purpose of this study was to delineate a strategic walking network for the CoPP.

1.2.1 What is a Principal Pedestrian Network (PPN)?

A PPN is a strategic network of pedestrian routes to promote walking for transport. A route within the PPN will provide the highest level of priority for pedestrians and would have characteristics such as generous footpaths, shade and weather protection, seating and priority over other transport modes at intersections.

A PPN is also planning and policy tool for the development and promotion of walking as a mode of transport. A PPN will give local governments a strategic tool to lobby State Government, particularly VicRoads, when negotiating transport mode priorities.

The methodology for delineating PPNs was developed by the Department of Transport (DoT) and has been used to guide this project. The focus for the methodology is to provide a logical set of steps that could be consistently applied to Melbourne's Activities Areas.

The DoT methodology has been adapted for application to the entire Port Phillip municipality for this project.

1.2.2 Why is the CoPP developing a PPN?

The CoPP vision, detailed within the Sustainable Transport Strategy, is for a connected and liveable city where residents, visitors and workers can live and travel car free by improving the convenience, safety, accessibility and range of sustainable travel choices. To ensure decision making is consistent with its vision Council has a Road User Hierarchy that places walking at the top followed by bike riding and public transport with single occupancy vehicles as the lowest priority.

In seeking to fulfil this vision, the following targets within the Strategy have been set for 2020 (expressed as a percentage of the total distance travelled by residents):

- Reduced private vehicle travel from 78% to 53%
- Increased travel using walking and bike riding from 9% to 20%
- Increased travel using public transport from 13% to 28%

Increasing the number and length of day-to-day trips the community do by walking, along with strengthening walking connections to public transport, will have a key contribution to affecting mode shift and achieving these targets.

Council's Walk Plan 2011 – 2020 was developed in conjunction with the Sustainable Transport Strategy. The strategies and actions within the plan that relate to physical infrastructure are structured around an area and destination based approach (refer to Figure 1). In order to link these destinations across Port Phillip together a network of strategic walking routes needs to be developed.

On this basis, developing a strategic walking network referred to as a PPN, which focuses on routes that cater for walking as transport trips, is intended to fulfil the following aims for Council:

- Identify and prioritise the implementation of capital works projects coming out of the Walk Plan.
- Support the implementation of greater 'green light' pedestrian priority interventions at identified traffic signals as well as at new locations to prioritise the crossing of these roads by people on foot consistent with 'Strategy 2 - Prioritise the Crossing of Side-Streets and Roads' in the Walk Plan and consistent with VicRoads' SmartRoads Operating Guidelines.
- Inform the development of a pedestrian wayfinding signage network consistent with the 'Strategy 4 - Improved Walking Directions' in the Walk Plan.
- Serve as a tool to leverage funding and advocate for support from State Government agencies such as VicRoads consistent with 'Strategy 8 - Advocate for Walking Improvements' in the Walk Plan.

Green Light Pedestrian Priority Improvements

As part of the Walk Plan, the CoPP is implementing improvements to a number of signalised intersections across the municipality. Green Light Pedestrian Priority Intersections will provide for the highest priority to pedestrians and include improvements such as:

- Auto call up - Not requiring pedestrians to press the button to activate a pedestrian crossing phase
- Lengthening the green man phase time to accord with the actual crossing time
- Late call up - pressing the button within the phase allows the green man pedestrian crossing to be triggered preventing excessive delays for pedestrians

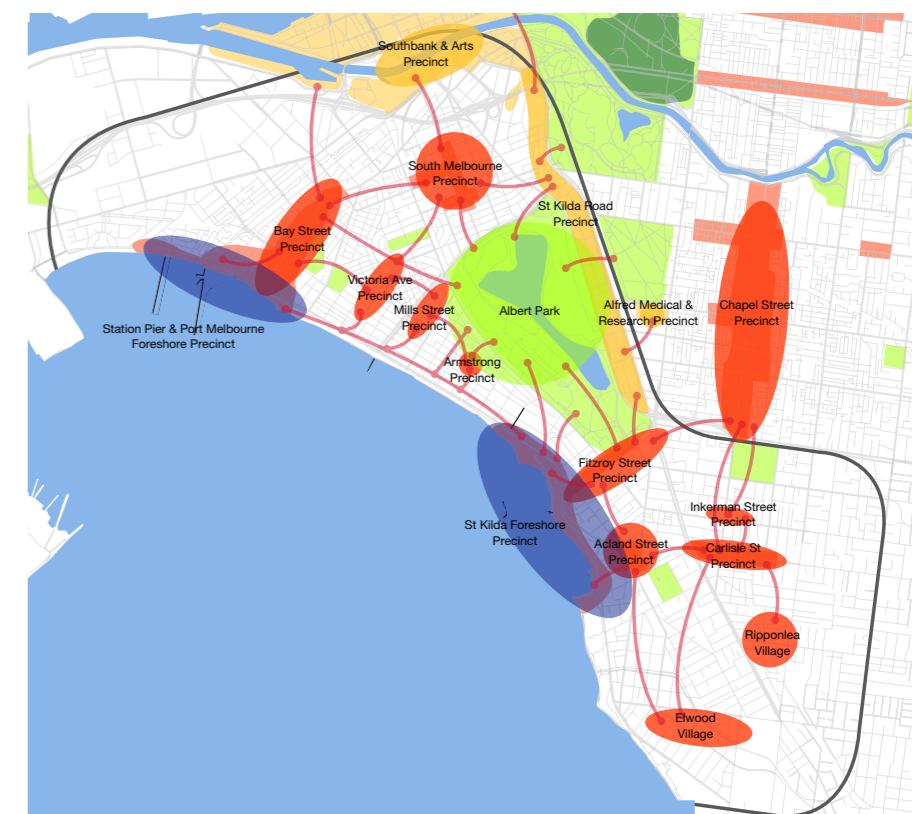


Figure 1 – Key Destinations in the City of Port Phillip - Source: City of Port Phillip Walk Plan 2011-2020, p 5.

1.3 Project Methodology

The study largely adopted the PPN Methodology developed by DoT and was undertaken across three stages:

STAGE 1 – PEDESTRIAN ACCESS MAPPING ANALYSIS

This stage involved mapping and determining the likely routes for pedestrian access within the study area through an analysis of the shortest routes between origins and destinations along the pedestrian network. The total potential trips were calculated to a variety of destinations including the core retail areas and land uses, the Melbourne CBD, light rail and tram stops, bus stops, the foreshore, open space, community facilities and schools.

STAGE 2 – MAPPING VALIDATION AND VERIFICATION

This stage provided for the validation of the mapping analysis by factoring in future land use and population change within the study area using local Council officer knowledge, and undertaking pedestrian counts at a number of locations.

STAGE 3 – PRINCIPAL PEDESTRIAN NETWORK

This stage involved the delineation of the PPN using the results from Stages 1 and 2 including verifying the alignment of the PPN with local Council officer knowledge.

1.3.1 Divergence from the DoT PPN Methodology

The study generally followed the key steps outlined in the DoT PPN methodology however some variations were applied, which were considered to enhance the methodology and provide more relevance to the conditions of the municipality and the CoPP's existing strategic work. These included:

- **The use of multiple primary destinations** - The DoT methodology recommended the use of a primary destination being a major transport hub or retail focus. This project used multiple primary destinations i.e. retail, public transport, open space community facilities, schools, foreshore and the Melbourne CBD with a different weighting applied to each destination. This divergence was adopted because the municipality has significant population densities located within walking distance of a variety of key destinations. The primary destinations were allocated different weightings to reflect the relative proportion of residents likely to travel to each destination type. This creates a more comprehensive PPN for the Port Phillip context which accounts for potential walking trips to a range of destinations.
- **The use of three levels of PPN Priority** - The DoT methodology recommends the allocation of Primary pedestrian routes and Secondary pedestrian routes. For this project, three levels of priority have been adopted - Primary, Secondary and Other pedestrian routes. Three levels have been adopted so that Council could better prioritise the implementation of key walking projects across the study area. This approach better reflects the inner Melbourne context where there is a strong density of walking routes and other associated infrastructure.

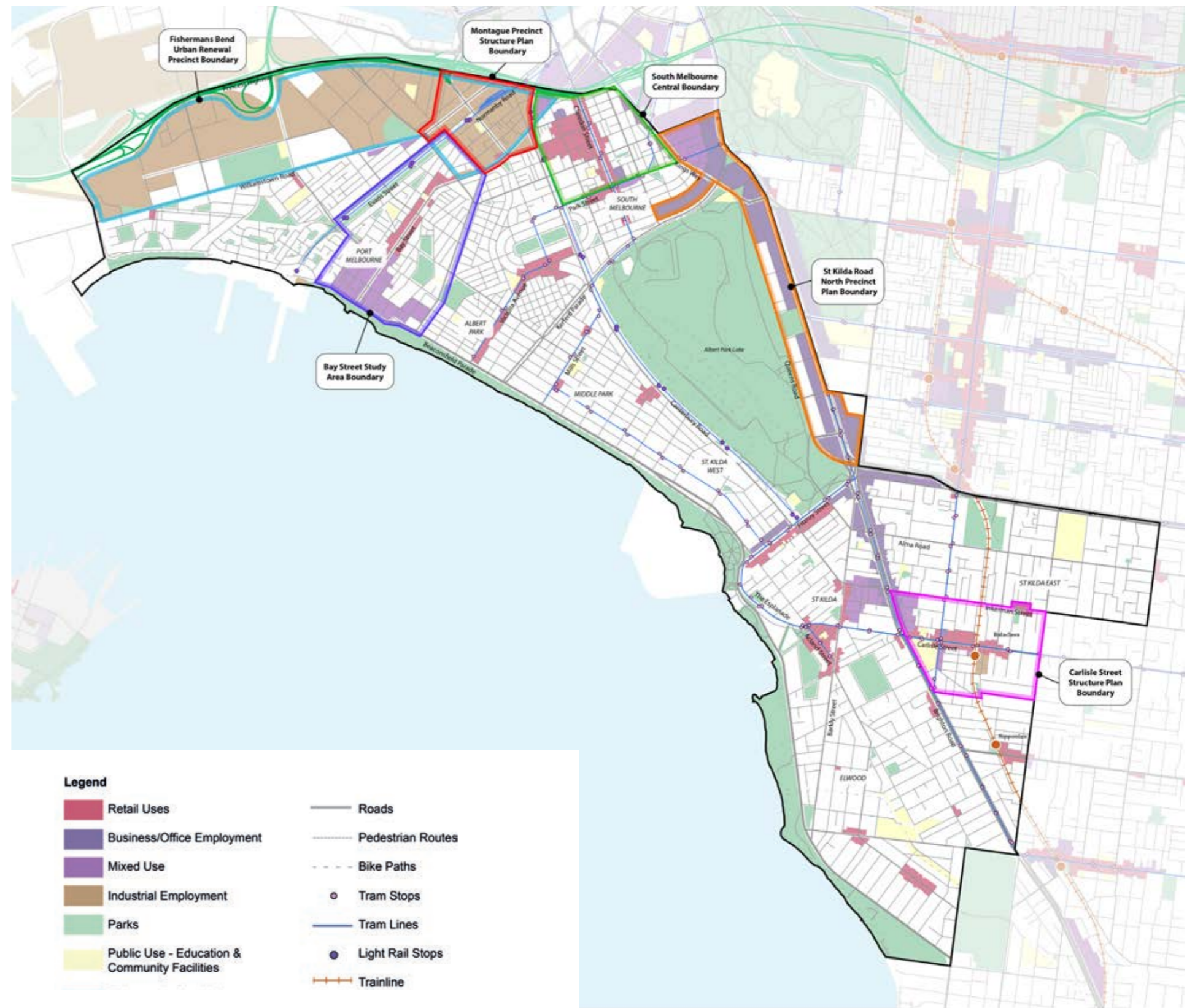


Figure 2 – Study Area and Context Map



1.4 PPN Pilot Project, 2011-12

In 2011-12, a pilot project (PPN Part 1) was undertaken to prepare a PPN for the Port Melbourne Major Activities Area, South Melbourne Central Major Activities Area and the Montague Precinct, and surrounding areas within a 1km catchment. A series of primary and secondary PPN routes were delineated for each of these areas.

The current PPN project focuses on delineating a PPN for the balance of the municipality, however the findings from PPN Part 1 have been integrated to ensure a cohesive walking network across the municipality.

1.5 Integration with VicRoads SmartRoads Network Operating Plans

SmartRoads is an approach that manages competing interests for limited space and time in the road network by giving priority use of the road to different transport modes, both to different parts of the network and at different times of the day. Some routes or parts of the road network will be managed to work better for pedestrians while others will be managed for public transport, cyclists, freight and cars.

VicRoads currently manages the development of the SmartRoads Network Operating Plans and have identified a road use hierarchy for the study area (refer to Figure 3). The map shows pedestrian priority limited to the Bay Street, Clarendon Street, Fitzroy Street, Acland Street and Carlisle Street shopping strips.

The development of a PPN will provide Council with a tool to negotiate further pedestrian priority across the study area particularly along streets connecting into the existing shopping strips and along other key routes to major destinations. This will be particularly important at intersections and along streets where the PPN runs parallel to or intersects other transport priorities.

The implementation section of this report provides recommendations for the next steps in negotiating greater pedestrian priority in the SmartRoads Network Operating Plans.

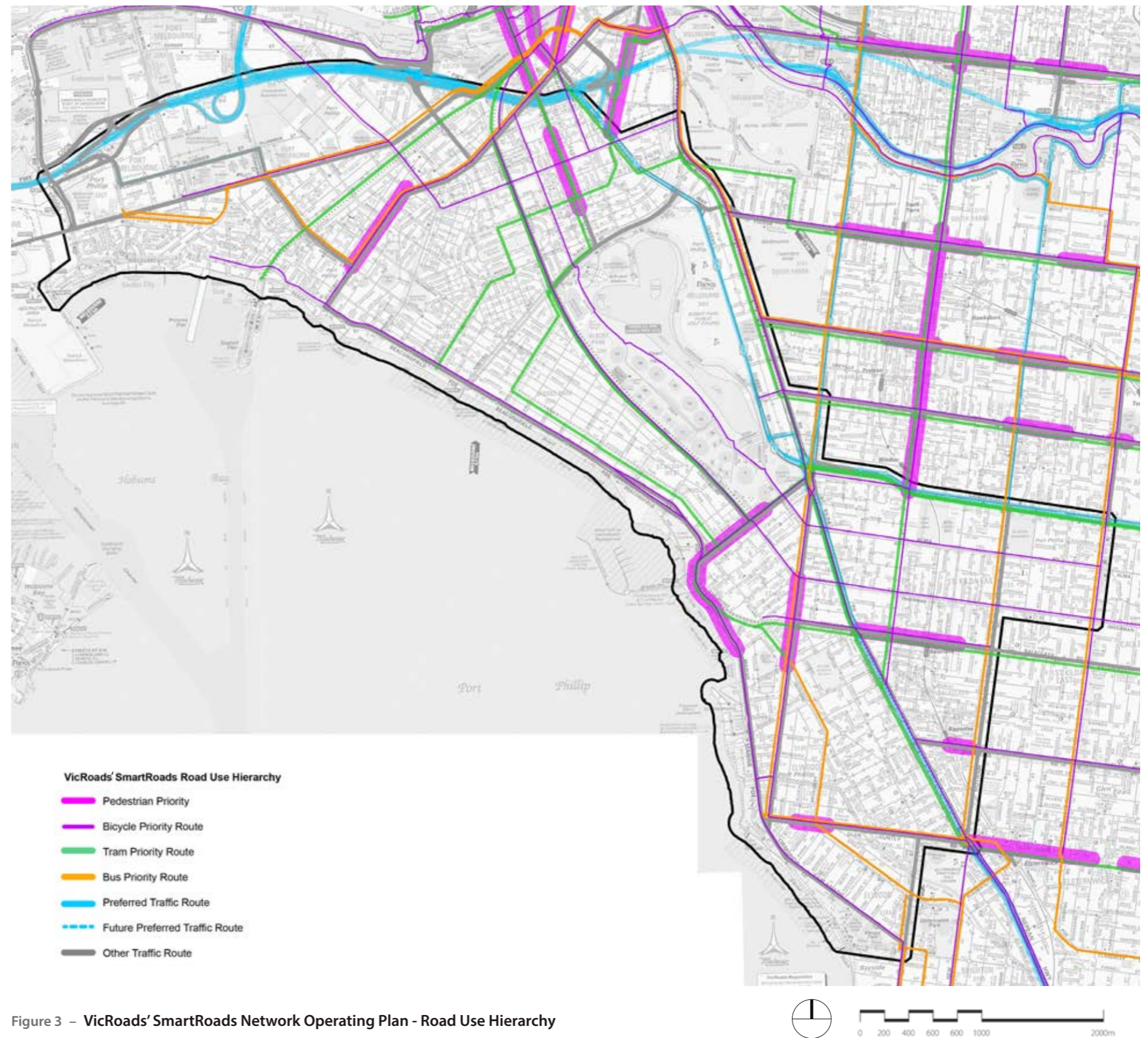


Figure 3 – VicRoads' SmartRoads Network Operating Plan - Road Use Hierarchy

02 PEDESTRIAN ACCESS MAPPING ANALYSIS

2.1 Mapping Methodology

Five steps have been followed to undertake pedestrian access mapping across the study area. These steps generally follow those outlined in the DoT PPN methodology.

1. Define the pedestrian network

The pedestrian network was delineated across the municipality to reflect existing pedestrian access. This included streets with footpaths, off-street trails and pedestrian crossings over major roads.

2. Identify the primary destinations

Key destinations were delineated across the study area and grouped into the following categories:

- Major Retail Land Uses
- Light Rail Stops, Tram Stops and Bus Stops
- Train Stations
- Access to the CBD
- Foreshore
- Open Space
- Community Facilities
- Schools

A walking catchment of 1km was determined for each destination reflecting the maximum distance people are likely to walk to access the destination.

3. Identify residential origins

The centroid of the 2011 Census mesh blocks, the smallest spatial area containing Census data, was used to identify residential origins within the municipality. Each mesh block contains information about how many people live within the mesh block boundary.

4. Determine the shortest routes between origins and destinations

The shortest route between the residential origins and each of the primary destinations was delineated using GIS routing software.

5. Combine and weight the shortest routes

A weighting was applied to each of the primary destinations to reflect the relative proportion of residents likely to travel to each destination type.

The weighted routes were combined to show overall potential pedestrian trips within the municipality.

2.2 Limitations of the Pedestrian Access Mapping

2.2.1 Absence of Employment Data

The PPN Shortest route analysis is based on determining the shortest routes between residential origins and various destinations within CoPP. It does not consider pedestrian trips generated from employment origins to identified destinations. This is due to an absence of employment Census information.

Pedestrian counts have been undertaken in employment areas and showed significant pedestrian activity at these locations. The counts and local knowledge have been factored in when delineating the PPN in and around employment areas.

2.2.2 Shortest Route Analysis

A key focus for the PPN is to encourage a shift from transport trips that would typically be undertaken in a car to walking, i.e. travelling to the train station, to the shops or school.

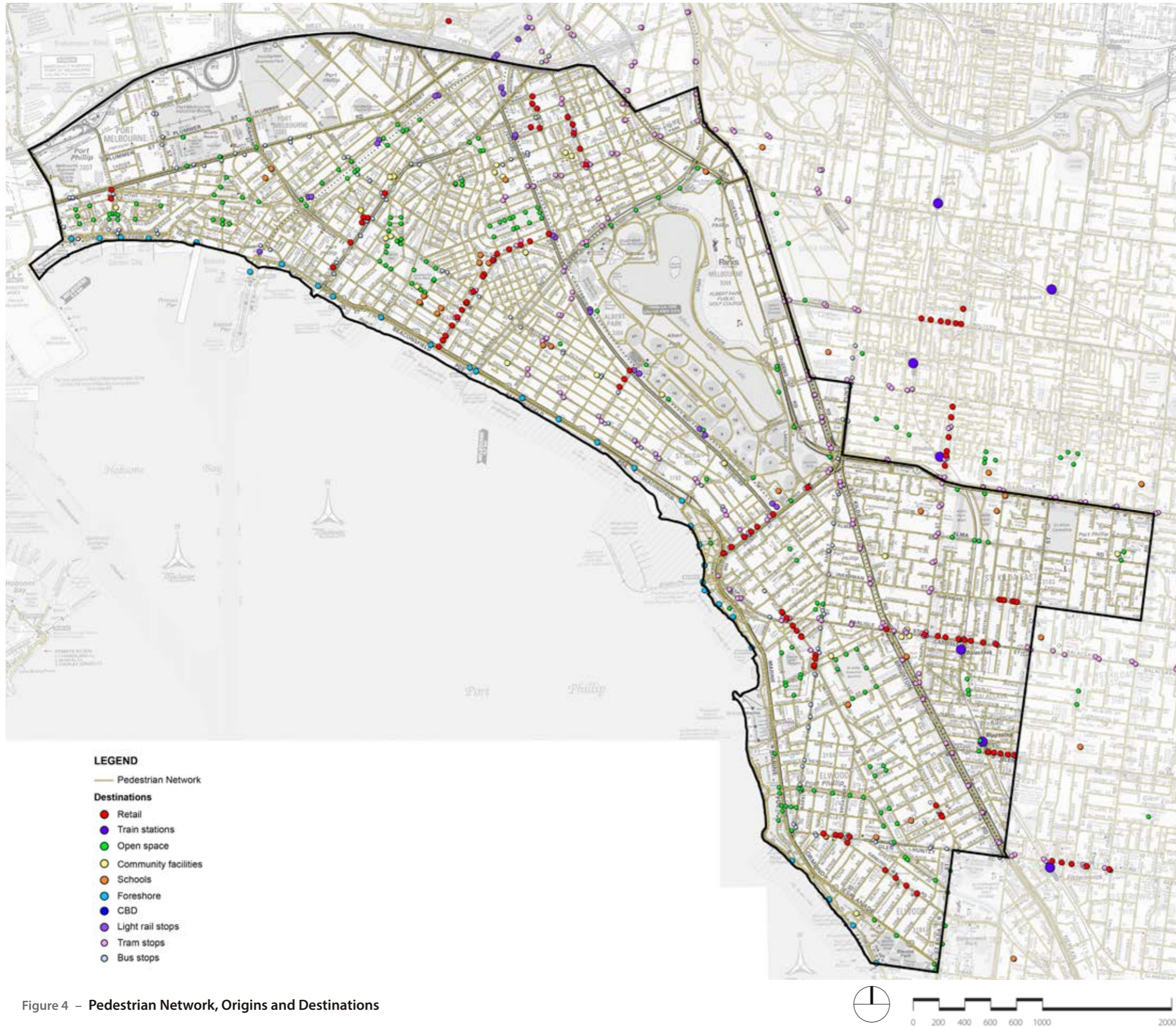
In order to do this, the PPN needs to focus on the shortest possible route so that travelling from origin to destination is as quick as possible. Once this route is identified, the highest level of service is provided to make walking an attractive and logical option.

The pedestrian access mapping analysis therefore determines the shortest route between origins and destinations - it does not determine the most desirable or scenic route.

In addition, the mapping analysis identifies the shortest route to destination points i.e. park entry points, foreshore entry points, shopping strip entry points. It does not identify recreational routes i.e. walking along the foreshore or walking along shopping strips.

2.3 Mapping Results

The following maps show the results of the pedestrian access analysis.



PEDESTRIAN NETWORK, ORIGINS AND DESTINATIONS

Figure 4 – Pedestrian Network, Origins and Destinations

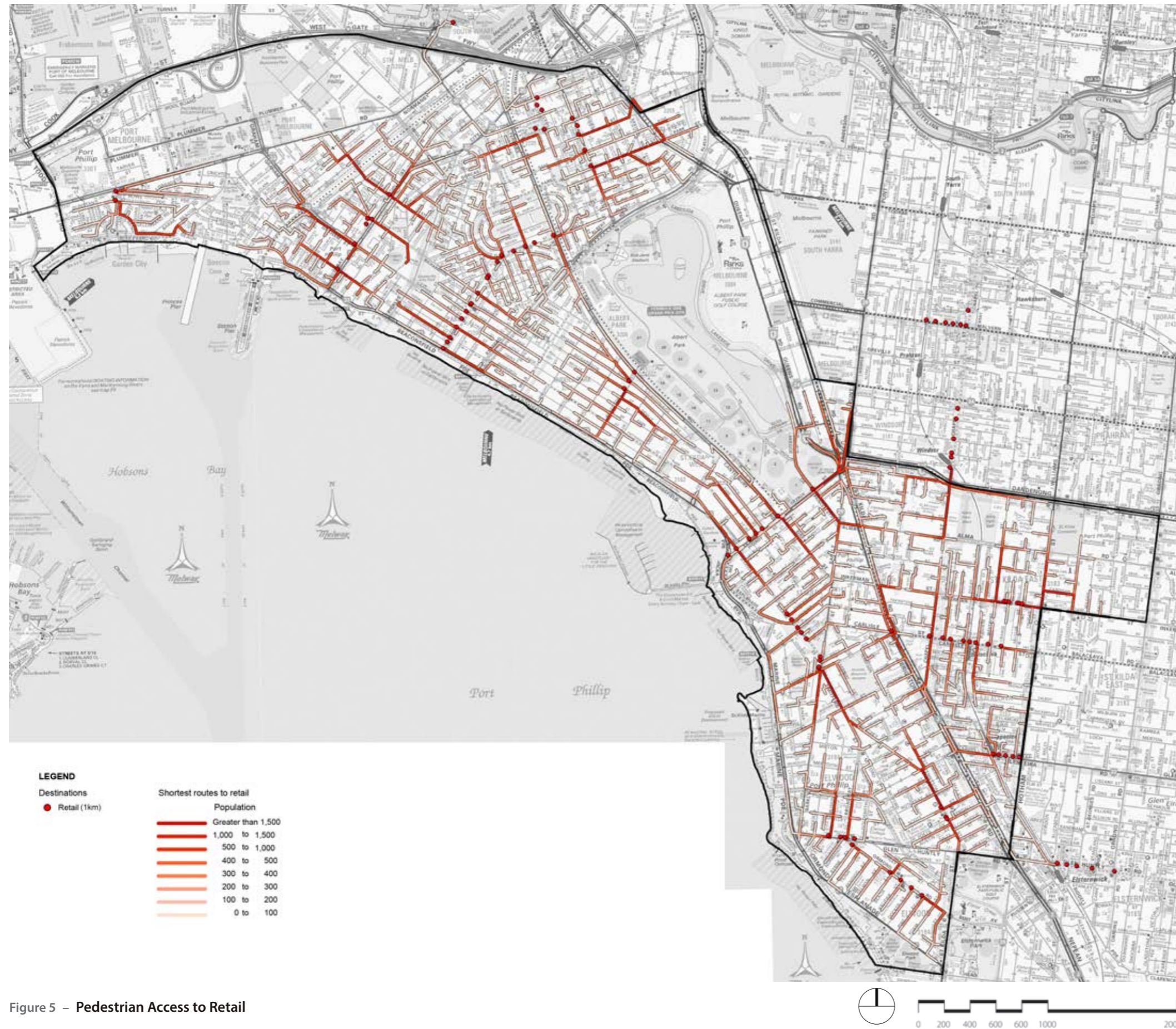


Figure 5 – Pedestrian Access to Retail

ACCESS TO RETAIL

The primary retail destinations were designated at main road intersections along the primary shopping strips, resulting in a cluster of destination points for each shopping strip. Key retail land uses such as supermarkets, the South Melbourne Market and the Southbank DFO, were also given a specific destination point.

The mapping analysis shows a generally clear local walking catchment with two or three key routes feeding into each shopping strip. As a result, there are numerous key routes across the municipality reflecting a high accessibility to retail destinations.

The analysis only determines the shortest routes to the nearest retail destination. As a result, the mapping does not account for origins within a walking catchment of more than one destination, or pedestrian activity along the shopping strips themselves.

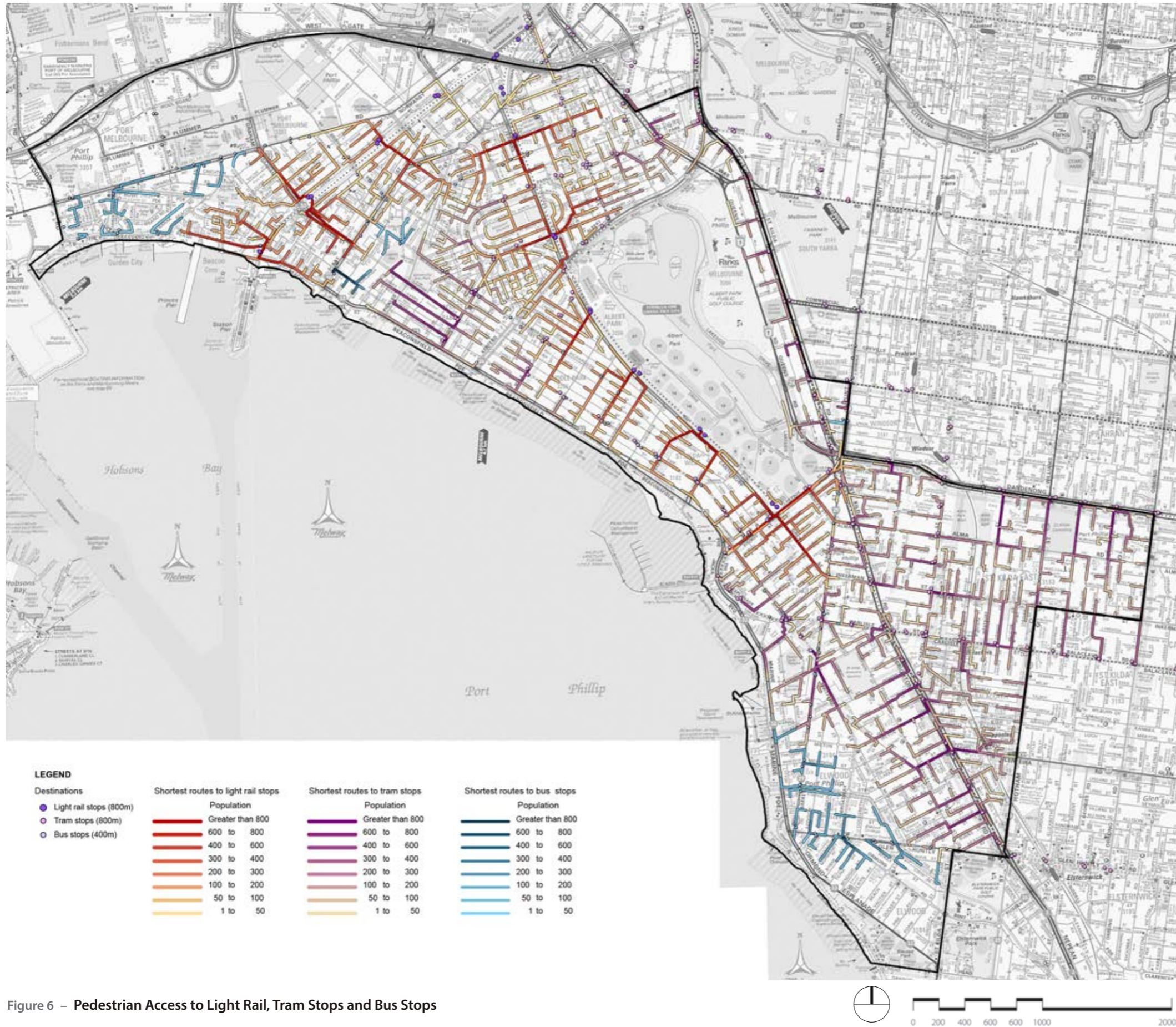


Figure 6 – Pedestrian Access to Light Rail, Tram Stops and Bus Stops

ACCESS TO LIGHT RAIL / TRAM STOPS / BUS STOPS

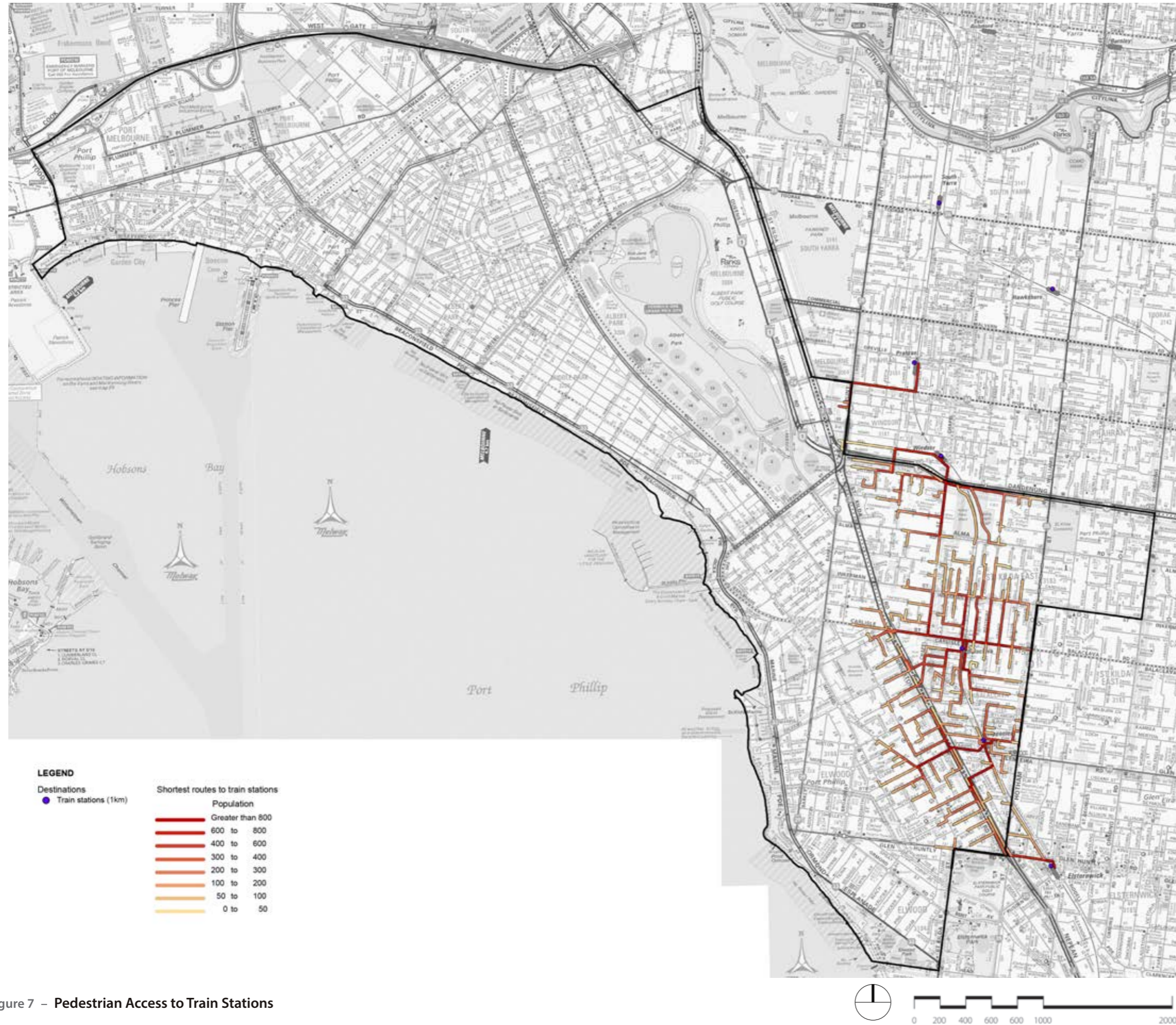
The mapping opposite combines analyses access to light rail, tram and bus stops within the study area.

In order to reflect the general preference for light rail over 'regular' tram lines, shortest routes were calculated to light rail stops for origins within an 800m walking catchment of these stops, with the remaining balance of the tram line origins generating trips to regular tram stops. This was based on the assumption that residential origins within 800m would be likely to walk to a light rail stop even if a regular tram stop was closer.

For residential origins where there was no light rail or tram stops within 800m, bus stops were identified as key transport destinations. For these origins, shortest routes were calculated within a 400m catchment of a bus stop.

With the exception of increasing intensity towards the destinations, there are no dominant routes for light rail, tram or bus stops. This reflects the high provision of public transport services within the study area.

The plan highlights an absence of public transport access in the southern parts of Elwood.



ACCESS TO TRAIN STATIONS

Shortest routes were assessed for five train stations at the eastern edge of the municipality.

Shortest routes to train services were limited to origins within 1km of the train stations.

The results show a concentration of potential walking trips around the Balaclava and Ripponlea Stations. Carlisle Street is shown as a key east west route providing access to Balaclava Station.

Figure 7 – Pedestrian Access to Train Stations

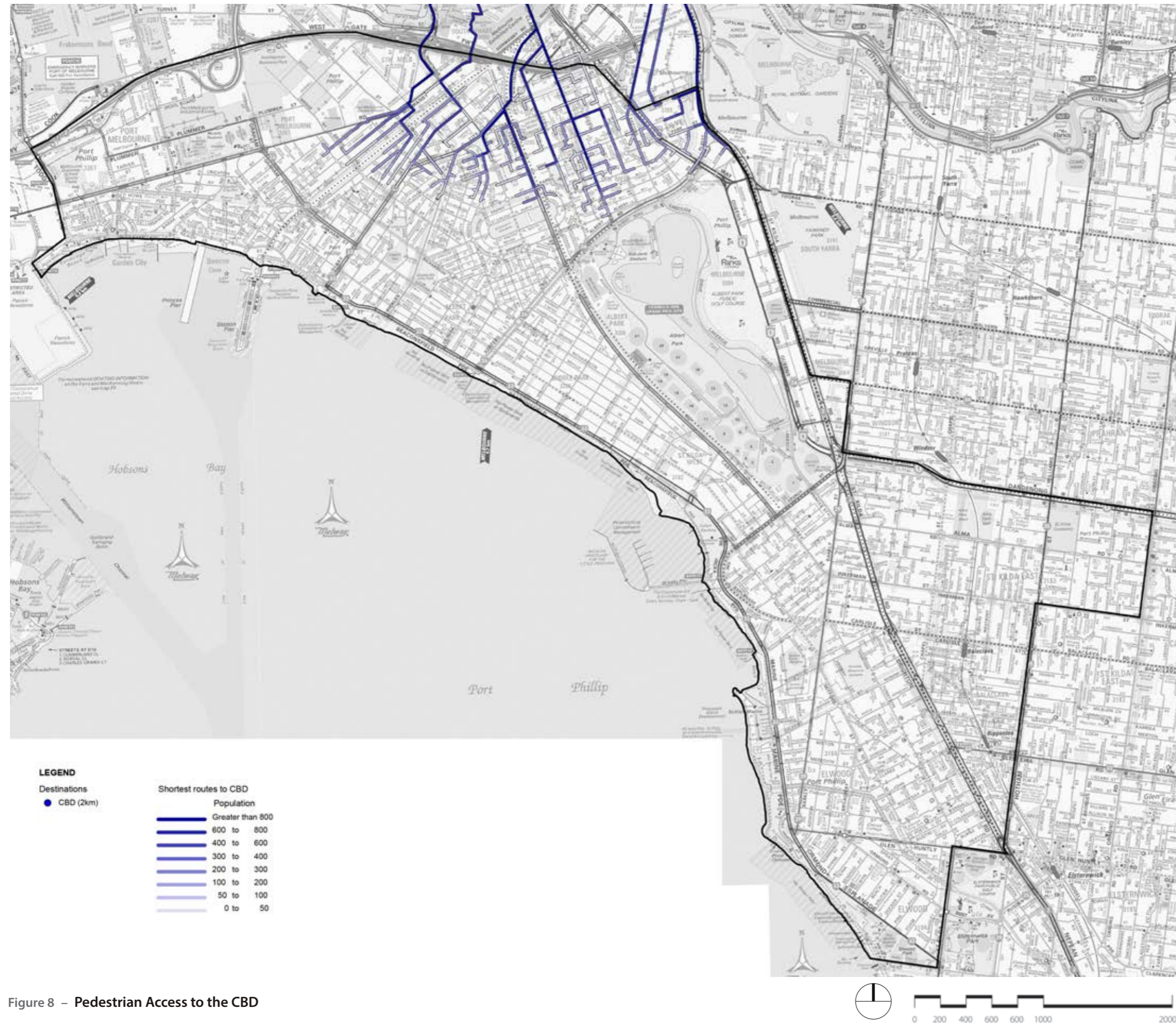


Figure 8 – Pedestrian Access to the CBD

ACCESS TO THE CBD

The primary CBD destinations were designated where the key pedestrian bridges across the Yarra River meet the edge of the CBD.

Shortest routes to the CBD were limited to origins within a 2km walking catchment of the CBD destinations. This was based on the assumption that residents who live further than 2km away would be unlikely to walk to the CBD.

As access to the CBD is limited to the bridges across the Yarra River, the roads extending from the bridges form the key routes, being Normanby Road, Clarendon Street, St Kilda Road and Wurundjeri Way.

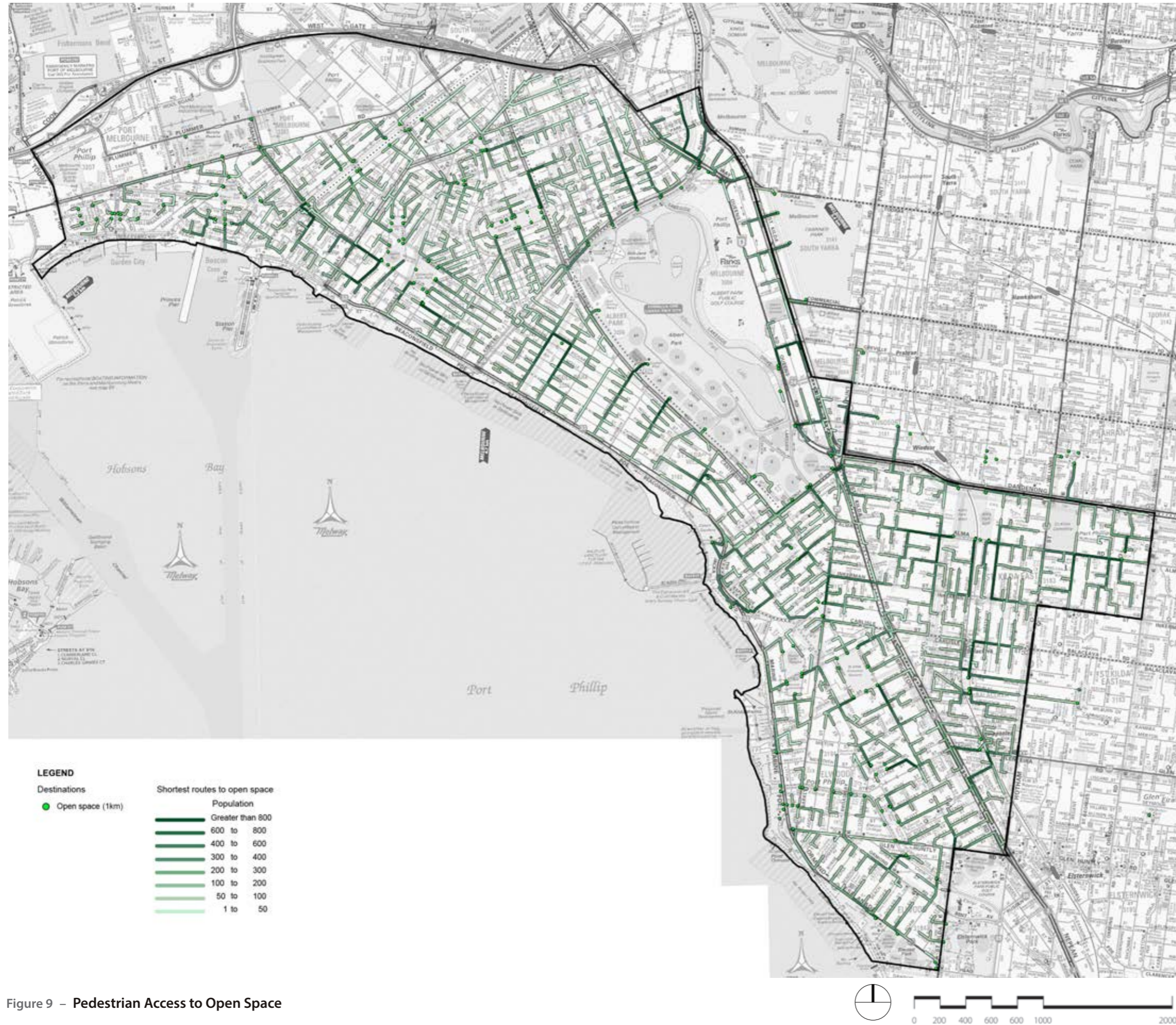


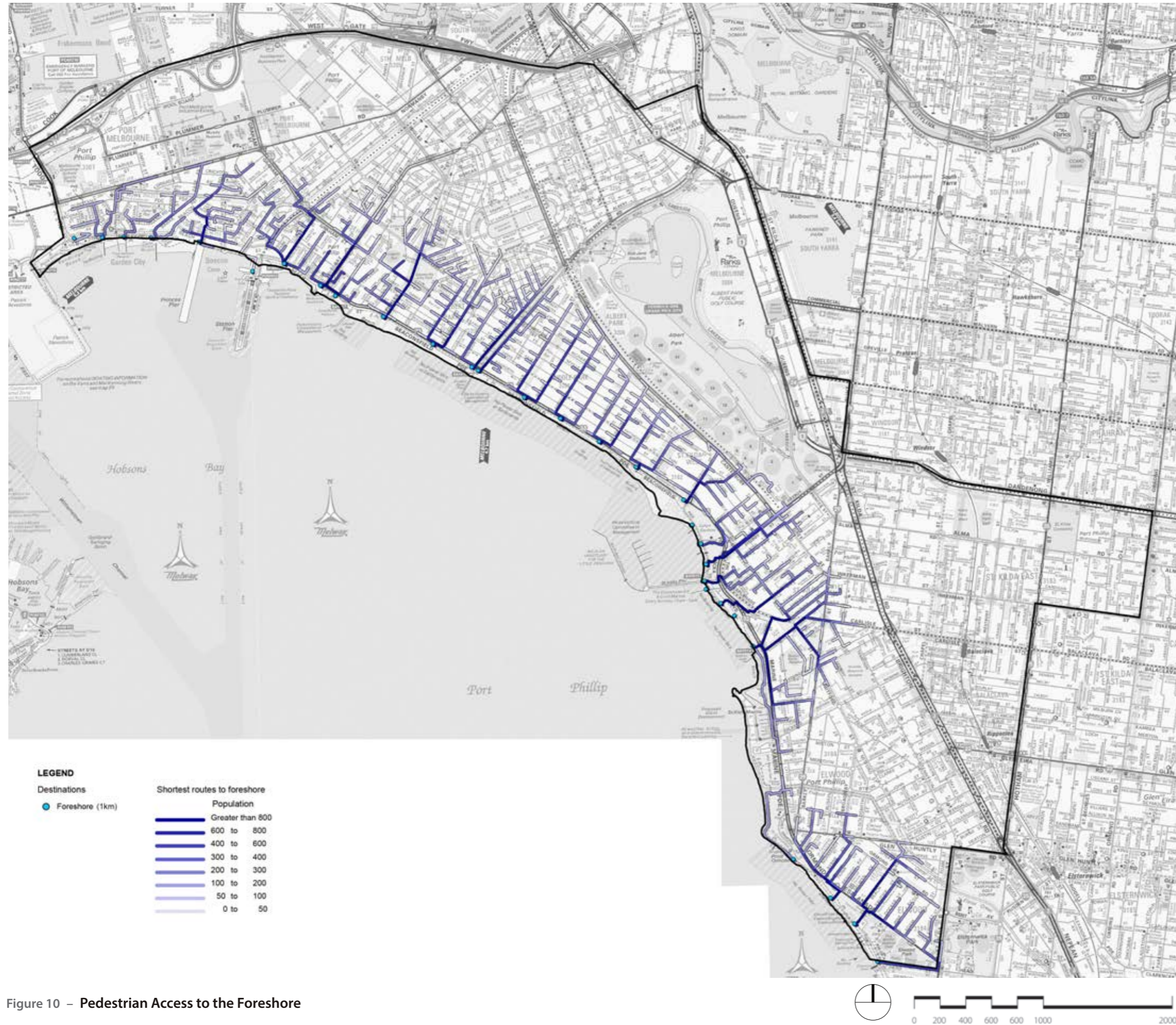
Figure 9 – Pedestrian Access to Open Space

ACCESS TO OPEN SPACE

Open space destinations were designated for parks and open spaces which were considered likely to be a stand-alone destination. Open spaces that were considered to be primarily for incidental use, such as to walk through, were not included as a destination.

The destination points for open spaces were designated at the identifiable pedestrian entrances such as pathways and gates. If the open space had no identifiable pedestrian entrances, the street corners of the open space were used.

Access to open space is generally evenly dispersed among the local streets with few distinct key routes. This reflects the multiple access points surrounding most open spaces.



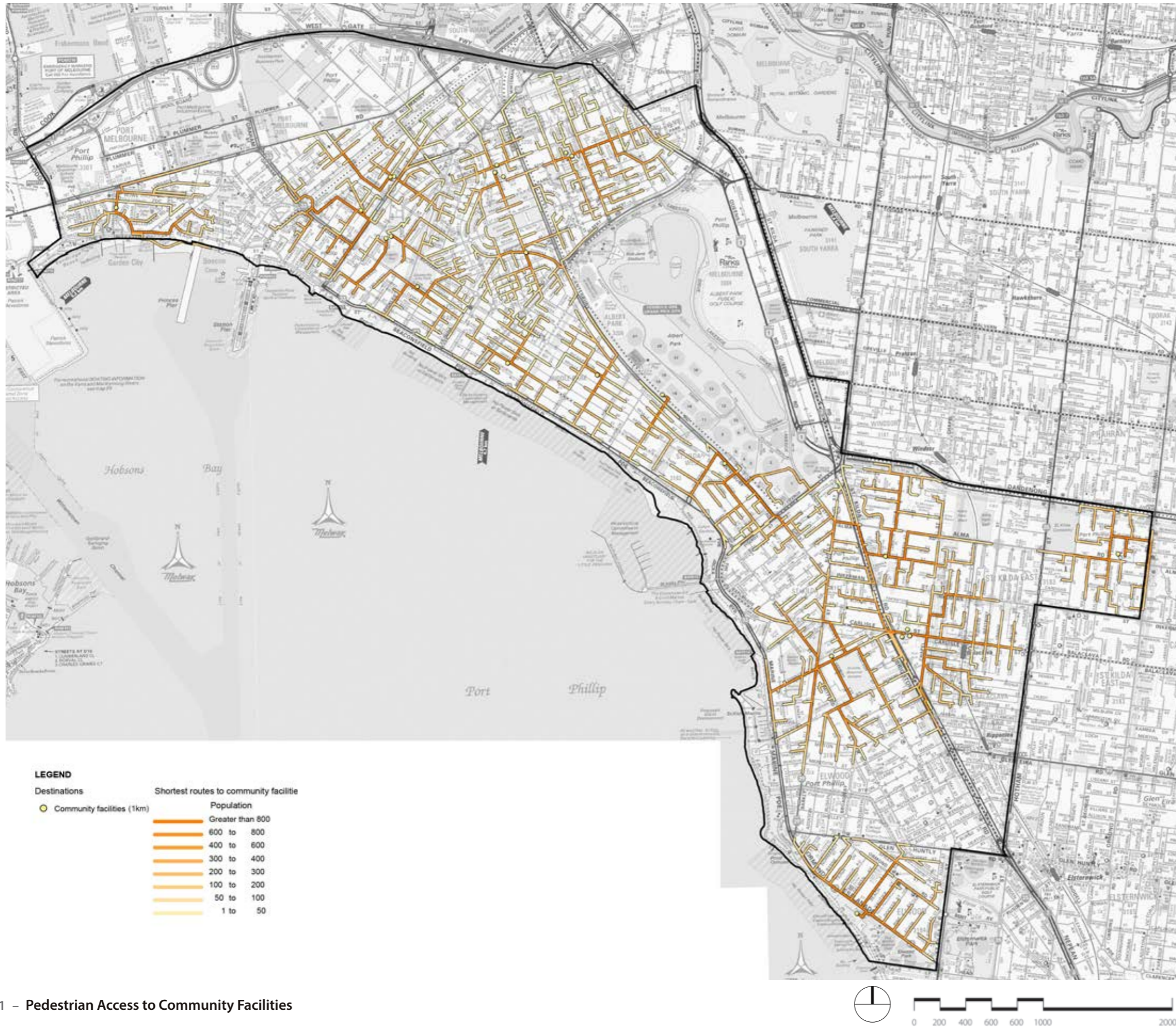
ACCESS TO THE FORESHORE

The primary foreshore destinations were designated at the key pedestrian access points to the foreshore and pedestrian crossings across Beach Street, Beaconsfield Parade, Jacka Boulevard and Marine Parade.

Shortest routes to the foreshore were limited to origins within 1km of the foreshore destinations. This was based on the assumption that the foreshore is not likely to be an important walking destination for residents who live further than 1km away.

While there is a relatively even distribution of access routes to the foreshore, a few key routes are highlighted including routes into the St Kilda Pier area, Station Pier and Bay Street, and Kerferd Road.

Figure 10 – Pedestrian Access to the Foreshore



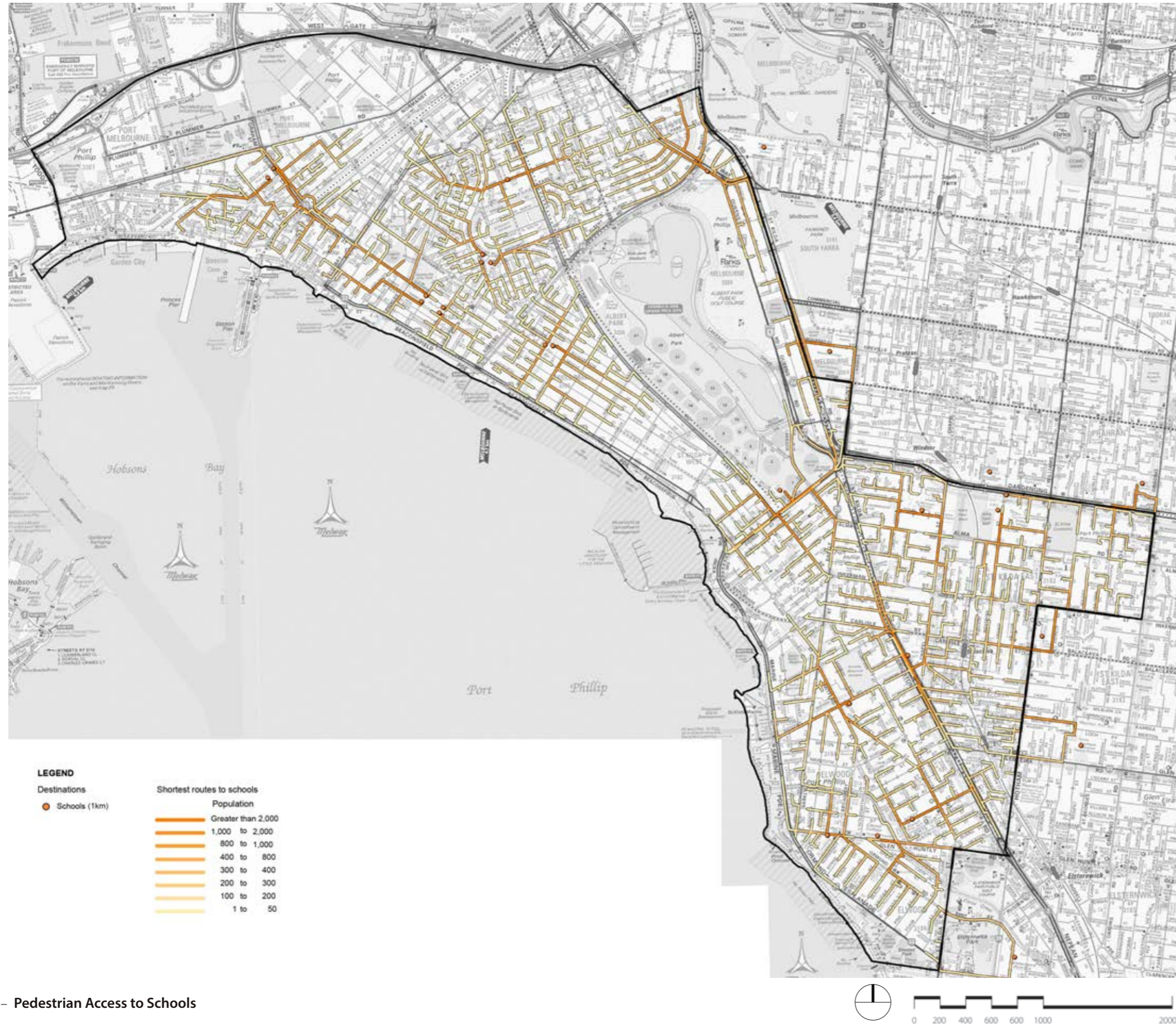
ACCESS TO COMMUNITY FACILITIES

The primary destinations for community facilities included key public libraries, town halls and other community services.

Given the scattered distribution of community destinations, the shortest route analysis reflects local catchments to each facility. Many of the key routes align with the retail shopping strips given the location of these facilities along the shopping streets.

The mapping analysis also identifies areas that are not served by any community facilities within a 1km walking distance, notably pockets of residential areas north of Station Pier, adjacent to The Esplanade in St Kilda, west of Williams Road in St Kilda East, and a large area in Elwood and Ripponlea.

Figure 11 – Pedestrian Access to Community Facilities



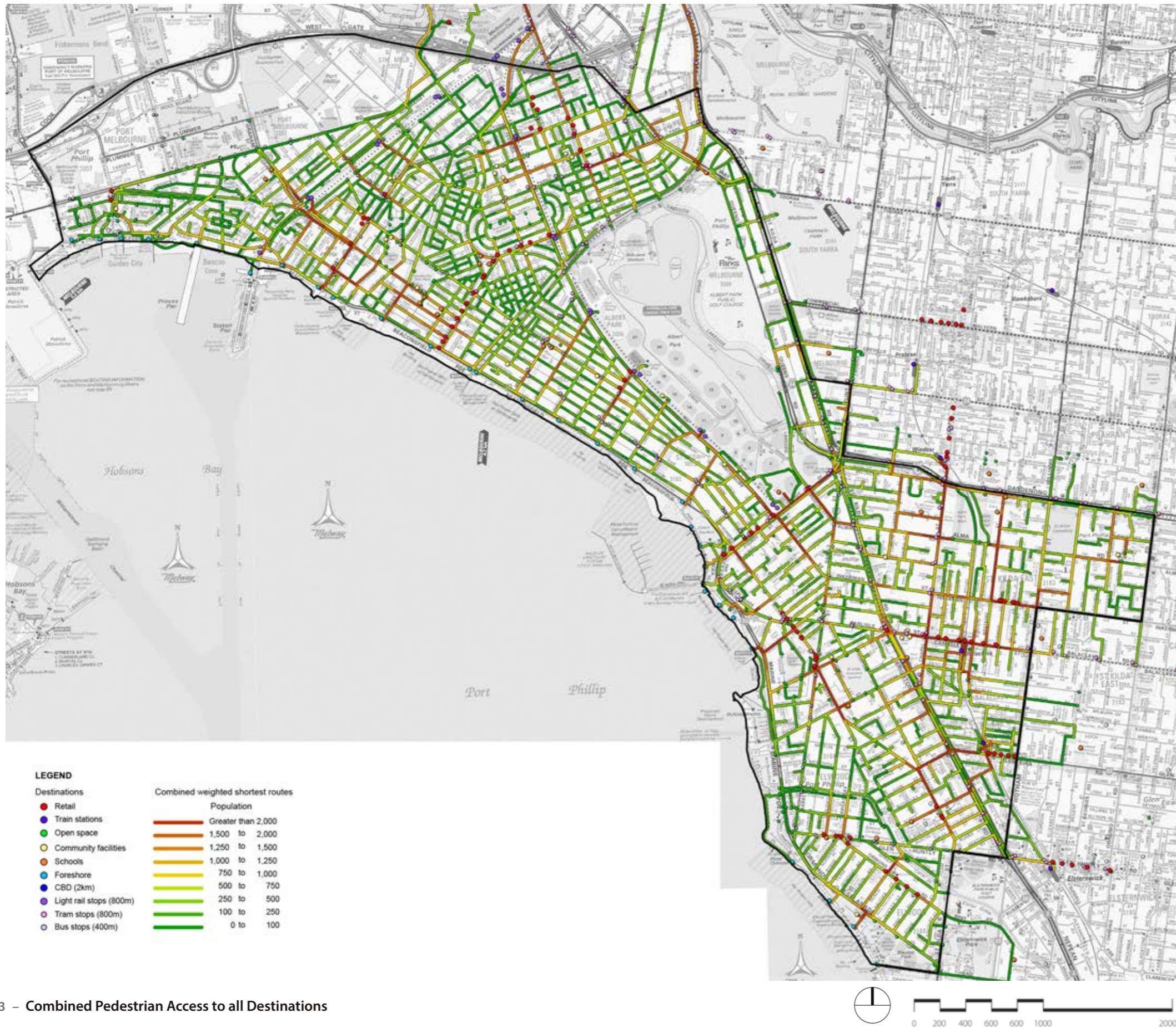
ACCESS TO SCHOOLS

Twenty government and non-government primary and secondary schools were designated as primary destinations across the study area. A number of schools outside the municipality were included as they fall within a 1km walk of the residential origins within the study area.

The mapping highlights localised access to each school along local streets and major roads.

The mapping analysis also identifies areas that are not served by any school within a 1km walking distance, notably pockets of residential areas in St Kilda West, St Kilda and the northern sections of South Melbourne.

Figure 12 – Pedestrian Access to Schools



COMBINED ACCESS

The Combined Access map combines the shortest routes results for all the destinations and provides an overall analysis of accessibility within the study area.

A weighting to each of the primary destinations was applied to reflect the relative proportion of residents likely to travel to each destination type. The weighting applied to the destination categories were:

- Retail - 100%
- Light Rail - 100%
- Tram Stops - 100%
- Bus Stops - 33%
- CBD - 66%
- Foreshore - 66%
- Open Space - 66%
- Community Facilities - 33%
- Schools - 33%

The results show a strong focus for pedestrian activity in and around the key retail strips across the study area. This is due to the concentration of destinations around these streets i.e. shops, tram stops and community facilities. Pedestrian activity dissipates further away from each retail strip.

Beacon Cove, Middle Park and Elwood generally have a lower level of pedestrian access due to the lower population densities and fewer destinations.

Figure 13 – Combined Pedestrian Access to all Destinations

03 MAPPING VALIDATION AND VERIFICATION

3.1 Future Land Use and Population Projections

3.1.1 Purpose

The recognition of future land use, population and infrastructure changes forms an important part of the validation of the PPN. This is particularly important as the PPN will need to adapt to the changing needs of the activity centre, particularly in the context of population growth and structure planning.

3.1.2 Future Population Projections

The future population for the entire study area was estimated for the period between 2011 and 2031 utilising a number of resources. The population change map shown in Figure 15 shows the areas where the most significant population change is forecast to occur. Notable areas of change include the Fishermans Bend Urban Renewal Area (FBURA), St Kilda Road and pockets of St Kilda.

The following outlines the key steps to determine future population projections within the study area:

FBURA

- Preliminary population projections were provided for six precincts within the FBURA.
- New residential origins were created within each precinct and a population value was provided for each origin based on the projections.

The balance of the study area (excluding FBURA)

- Populations projections for each of the suburbs within the study area were sourced from the Forecast.Id website. This formed the basis for population increases.
- For each of the residential areas:
 - A level of change (substantial, moderate, incremental, limited or minimal) was assigned to each of the existing residential origins based on the Housing Opportunities Framework Plan contained in the 2007 Housing Strategy.
 - The projected population growth for each suburb was proportioned to each residential origin according to the level of change.
 - Known future developments contained on the Forecast.Id website were mapped.

3.1.3 Future Walking Infrastructure

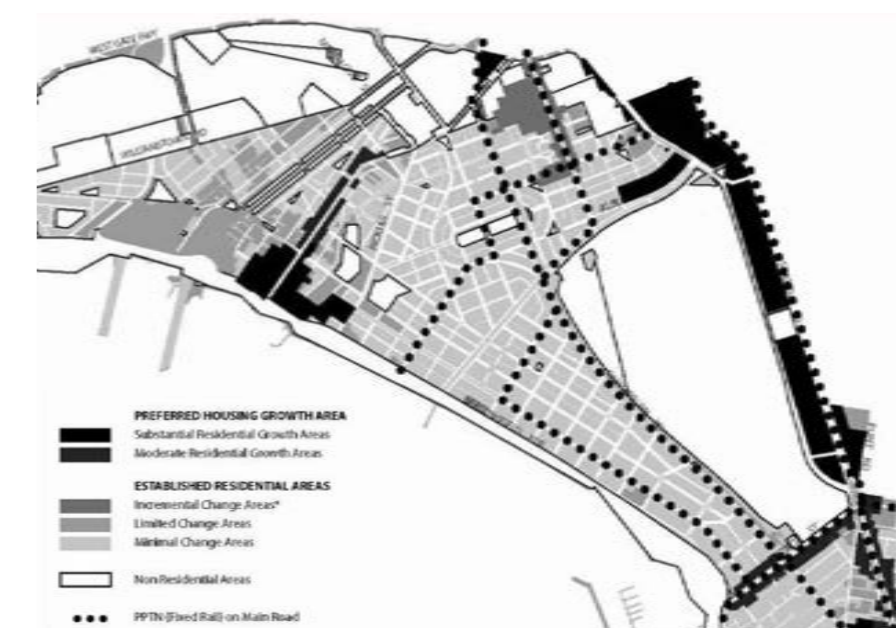
Council officers provided details of future planned walking infrastructure across the municipality.

For FBURA, a number of new streets were incorporated into the pedestrian network based on a future street network map provided by the CoPP. In addition, further north-south walking routes will be created in order to ensure the renewal area is as walkable as possible.

New links were also provided in the Port Melbourne area which were identified in a previous Structure Plan.

3.1.4 Future land use changes

For FBURA, it is understood that a number of new land uses will be provided that will create walking destinations for residents i.e. retail, community and open space. Details of these land uses was not available at the time of future shortest route mapping and haven't been included as destinations. This has resulted in future residents from FBURA walking to destinations in Port Melbourne.



Area name	2006	2031	Change between 2006 and 2031	
			number	Avg. annual % change
City of Port Phillip	90,552	114,218	23,666	0.93
East St Kilda	15,186	17,664	2,478	0.61
Elwood - Ripponlea	14,304	15,861	1,557	0.41
Middle Park - Albert Park	11,468	11,783	315	0.11
Port Melbourne	14,169	16,577	2,408	0.63
South Melbourne	7,796	12,323	4,527	1.85
St Kilda	19,941	24,218	4,277	0.78
St Kilda Road	7,688	15,792	8,104	2.92

Population forecasts for the City of Port Phillip
(Source: <http://forecast2.id.com.au/Default.aspx?id=221&pg=5180>)

Figure 14 – The 2007 Housing Strategy Map and Population Forecasts for the CoPP

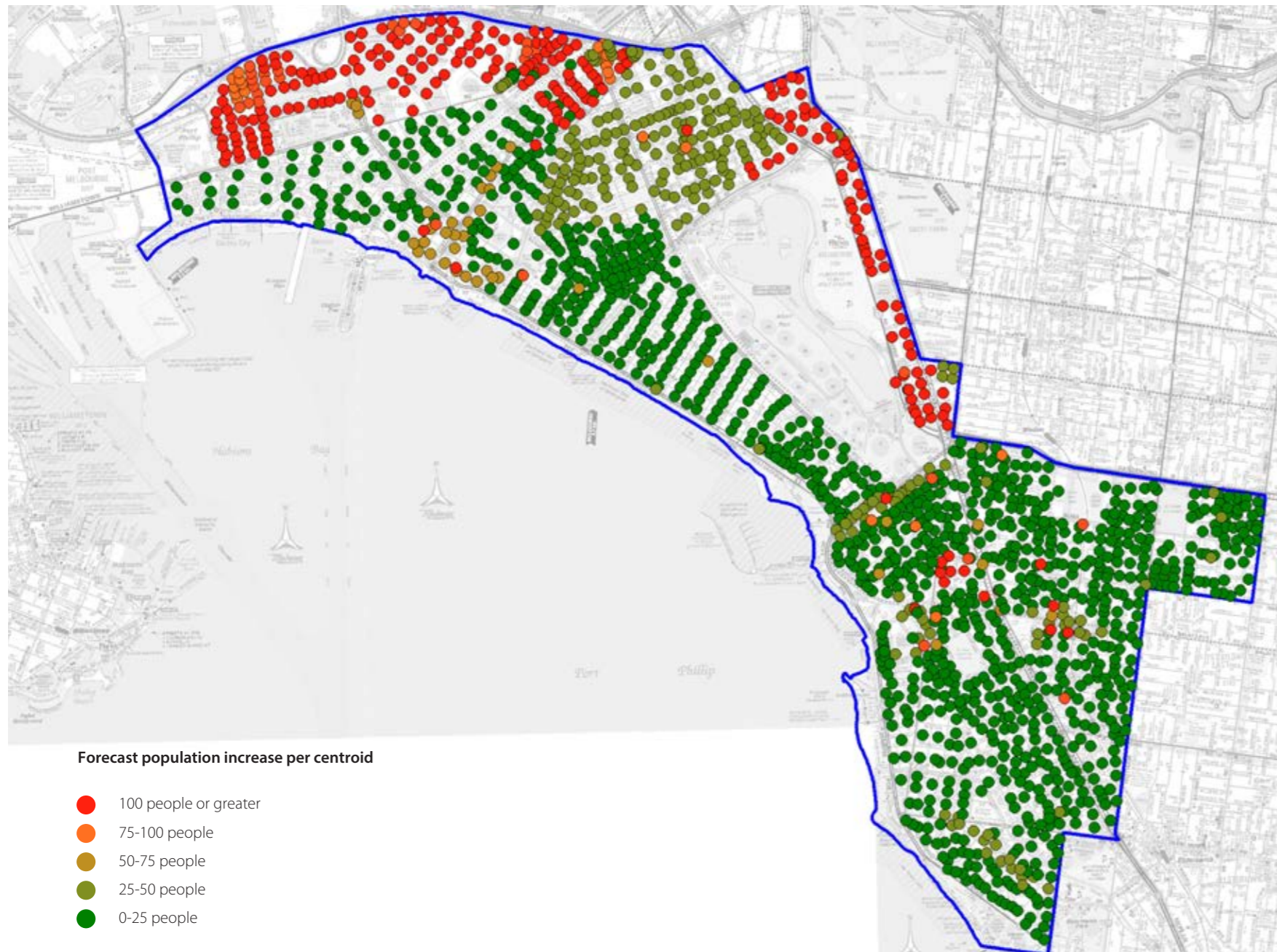
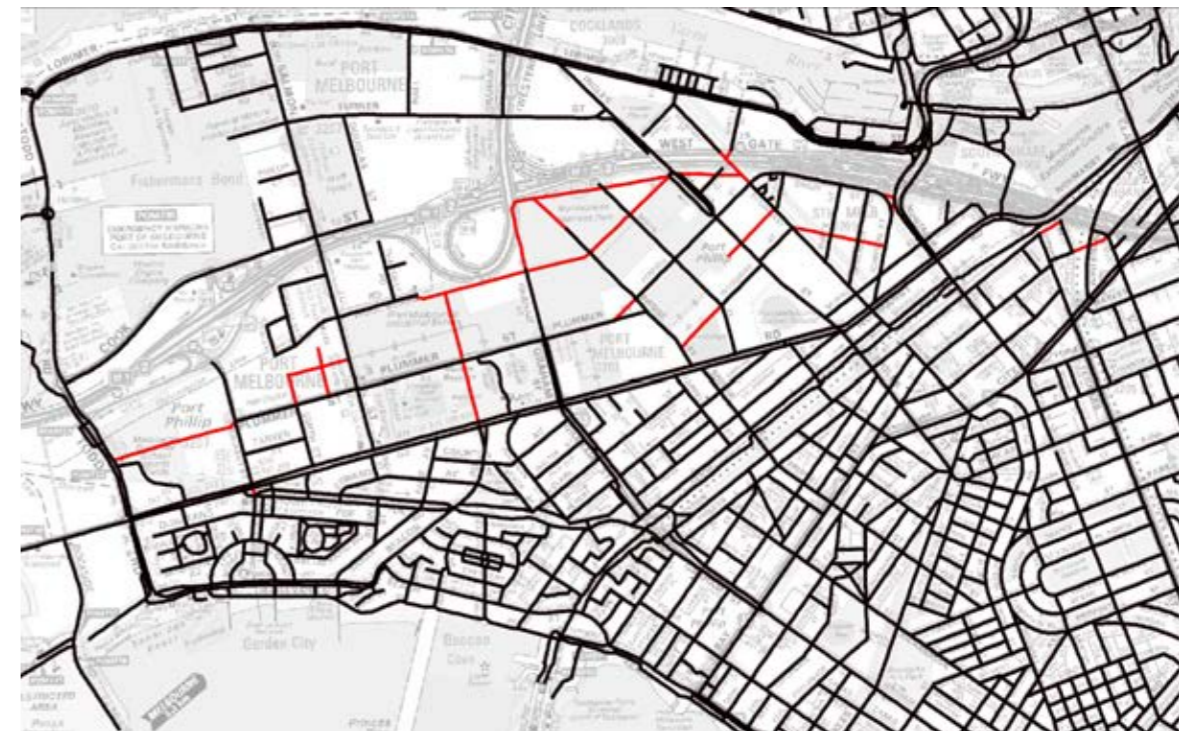


Figure 15 – Future population change across Port Phillip



— Existing pedestrian network
 — Future pedestrian links

Figure 16 – Future walking infrastructure changes in FBURA

COMBINED ACCESS - FUTURE SCENARIO

The combined access for the future population and infrastructure scenario has been compared to the combined access map based on existing conditions (refer to Figure 13).

The major difference between the existing and future scenario is a substantial increase in potential pedestrian trips in FBURA and key streets leading into South Melbourne, Port Melbourne and Beacon Cove. FBURA is the focus for major residential growth with an additional 38,340 people expected to be living within the precinct by 2031.

There are also notable increases in potential pedestrian trips along roads in the St Kilda Road area and St Kilda.

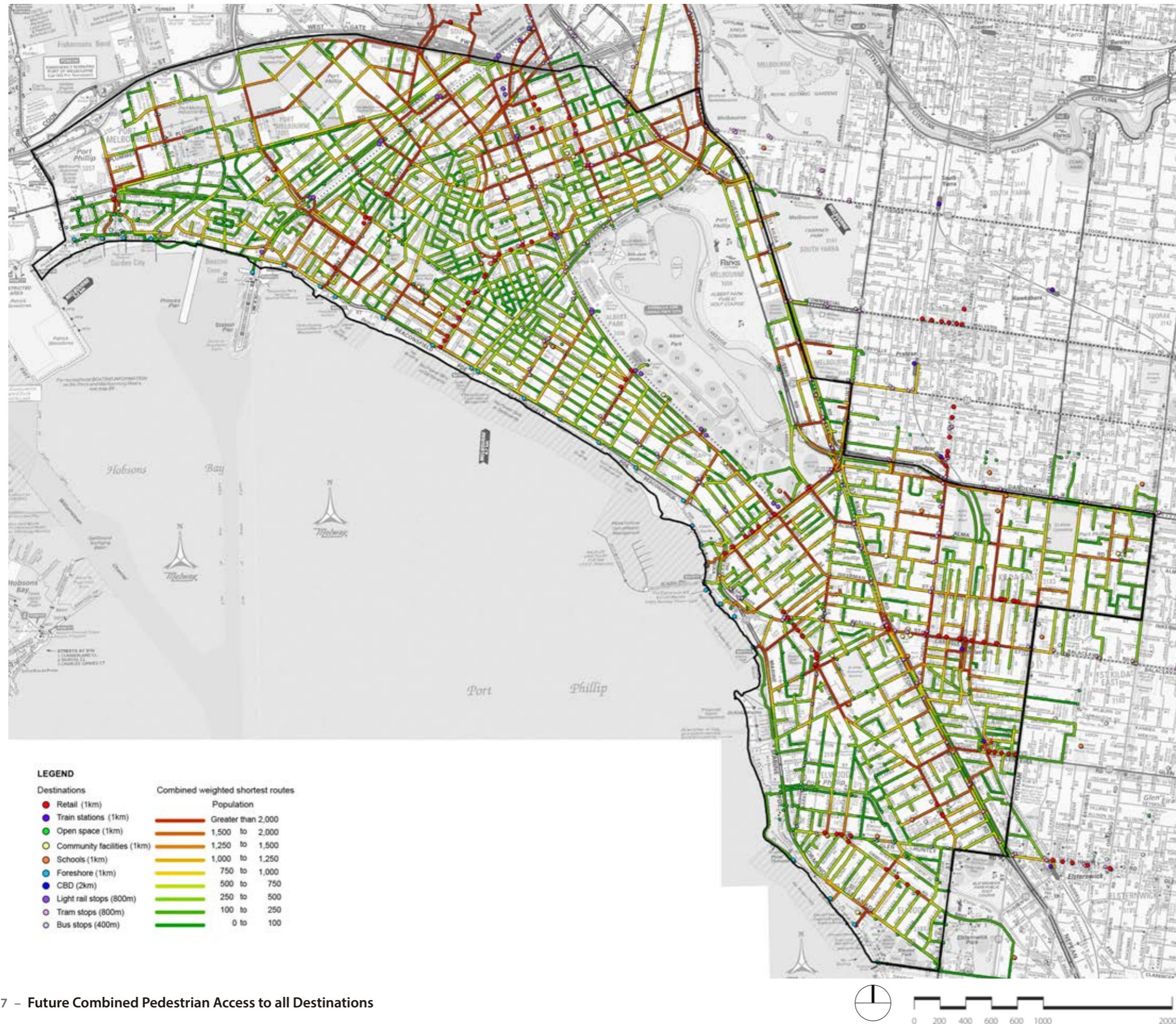


Figure 17 – Future Combined Pedestrian Access to all Destinations

3.2 Pedestrian Counts

Pedestrian counts were undertaken at 75 locations within the study area to validate the shortest route mapping analysis against actual usage of pedestrian routes.

Counts for the South Melbourne Central and Bay Street areas were largely undertaken in May 2012 through Part 1 of the PPN Project. Counts for the balance of the municipality were largely undertaken in March 2013 during Part 2 of the PPN project.

The count locations were dispersed across the study area and located along routes showing varying numbers of potential pedestrian trips identified in the shortest route mapping. This enabled both the popular and less popular routes identified in the mapping to be validated against the pedestrian counts.

The FBURA was excluded from the pedestrian counts because the PPN through this area was delineated based on future conditions. It was considered that counts through this area would not provide any insight into the alignment of the PPN.

3.2.1 Limitations

The major limitation of the pedestrian counts was that they were undertaken across a number of days. Because of this, variations in weather and other conditions such as people's daily routines and the opening of the South Melbourne Market provided some variation in results.

The counts were undertaken for a 12 hour period between 7:00am to 7:00pm on the following days:

- Port Melbourne Area 1 (PM1 locations) - Tuesday May 8, 2012
- Port Melbourne Area 2 (PM2 locations) - Thursday May 10, 2012
- South Melbourne SM-4, SM-5, SM-6, SM-11, SM-12 and SM-13 locations - Wednesday May 30, 2012
- The balance of South Melbourne (SM locations) - Friday May 4, 2012
- Site PC29 - April 18, 2013
- Balance of the municipality - Wednesday March 6, 2013

3.2.2 The Results

Details of the pedestrian counts are provided in Appendix A and B, including an hourly breakdown for each location as well as walking direction and footpath preference. Results are summarised in Figure 18.

The following provides a summary of the detailed results:

Port Melbourne

- Bay Street recorded a significant number of pedestrians compared to other sites in Port Melbourne with a peak over the lunch time period. The southern end of Bay Street recorded a lower number of pedestrians due to less retail activity.
- There was a drop-off in pedestrian numbers at sites that were located further away from Bay Street.
- Key east-west streets including Liardet Street, Graham Street and Rouse Street recorded significant pedestrian numbers particularly closer to Bay Street.
- Bridge Street which connects into Bay Street also recorded a lunchtime peak.
- A number of sites near primary schools recorded higher peaks during the morning drop-off and afternoon pick-up periods.

- Two sites near the light rail stations recorded early morning and evening peaks, which is likely to reflect commuter usage.
- The Victoria Avenue shops recorded high pedestrian numbers with a relatively even distribution of activity across the day.
- Waterfront Place near Station Pier recorded high pedestrian numbers with a relatively even distribution of activity across the day, despite the fact this was not a cruise ship arrival day

South Melbourne

- Clarendon Street recorded the highest number of pedestrians with a significant lunch time peak.
- Out of the east-west streets, Coventry Street recorded the highest numbers of pedestrians particularly west of Clarendon Street. This reflects significant pedestrian activity generated by the South Melbourne Market and also retail uses along this street.
- Employment areas in the eastern part of South Melbourne recorded significant pedestrian numbers i.e. Wells Street, Park Street, Dorcas Street, with most showing a peak over the lunch time period.

St Kilda Road precinct

- A significant number of pedestrians were recorded due to the employment uses through the area with clear peaks during the lunch period and morning

Middle Park

- Beaconsfield Parade recorded a significant number of pedestrians with greater activity in the afternoon / evening period.
- Armstrong Street, which includes a small group of shops recorded a high number of pedestrians compared to other north south streets in Middle Park.

St Kilda

- Fitzroy Street recorded the highest number of pedestrians within St Kilda with a relatively even amount of activity throughout the day.
- A significant number of pedestrians were counted along Pier Road and The Esplanade with activity increasing from the afternoon onwards

St Kilda East

- Carlisle Street recorded a very high number of pedestrians with a consistent flow of activity across the count period.
- Chapel Street recorded the highest count out of all sites in the study area with a clear peak during the lunch period. The count location is situated approximately 430m south of Windsor Railway Station and the Chapel Street shops.
- Of the north south links near the station Nelson Street recorded the highest number of pedestrians followed by Balaclava Walk and Blenheim Street

Elwood

- Generally the pedestrian counts were lower than other locations in the study area which is due to the lower density of population and fewer destinations in this area.
- The Elwood Life Saving Club shared path recorded the highest number of pedestrians with a greater amount of activity in the afternoon / evening periods.

3.2.3 Validating the Shortest Route Mapping

The map on the following page provides a comparison between the pedestrian counts and the shortest route mapping analysis. The shortest routes are coloured according to the percentage of potential pedestrian trips within the catchment. The results at each of the count locations is coloured in a similar way to enable a comparison between the two.

Overall the results show good calibration between the shortest route mapping and the pedestrian counts. This is reflected in the similarity in colours between the shortest routes and the pedestrian count locations.

However, there were a number of locations where the pedestrian counts showed comparatively different results to the mapping analysis. The major reasons for these differences are described below and reflected in Figure 18:

- **Employment locations** - The shortest route mapping analysis delineated the shortest routes between residential origins and various destinations, it excluded any potential pedestrian trips from employment origins. The pedestrian counts however accounted for all pedestrians trips. This resulted in comparatively higher pedestrian counts in areas of employment such as South Melbourne and St Kilda Road.
- **Shopping Strips** - The pedestrian count indicated a substantial number of people walking along key shopping strips compared to the shortest route mapping. The mapping determined the shortest route to the shopping strips, not along the strips. This results in limited potential trips along the strip itself.
- **Foreshore recreational trips** - A significant number of pedestrians were counted along key recreational routes within the study area (Beaconsfield Parade, Waterfront Place, Pier Road and the Elwood foreshore shared path) compared to the shortest route mapping. The mapping determined the shortest route to the foreshore reserve, not along the reserve. This results in limited potential trips along the reserve itself.
- **South Melbourne Market** - The counts for South Melbourne were undertaken on days when the Market was operating. This resulted in a higher volume of people walking along streets close to the market in comparison to the mapping analysis.
- **Streets close to the bay** - The counts showed lower results along some streets close to the bay in the South Melbourne / Port Melbourne areas when compared to the shortest route mapping. The mapping factored in potential trips to the bay from adjoining residential areas which were less likely to occur on the day of the counts because of the weather and seasonal conditions. This accounts for the higher results in the mapping.

12 HOUR PEDESTRIAN COUNT ANALYSIS (7AM TO 7PM) WITH SHORTEST ROUTE MAPPING

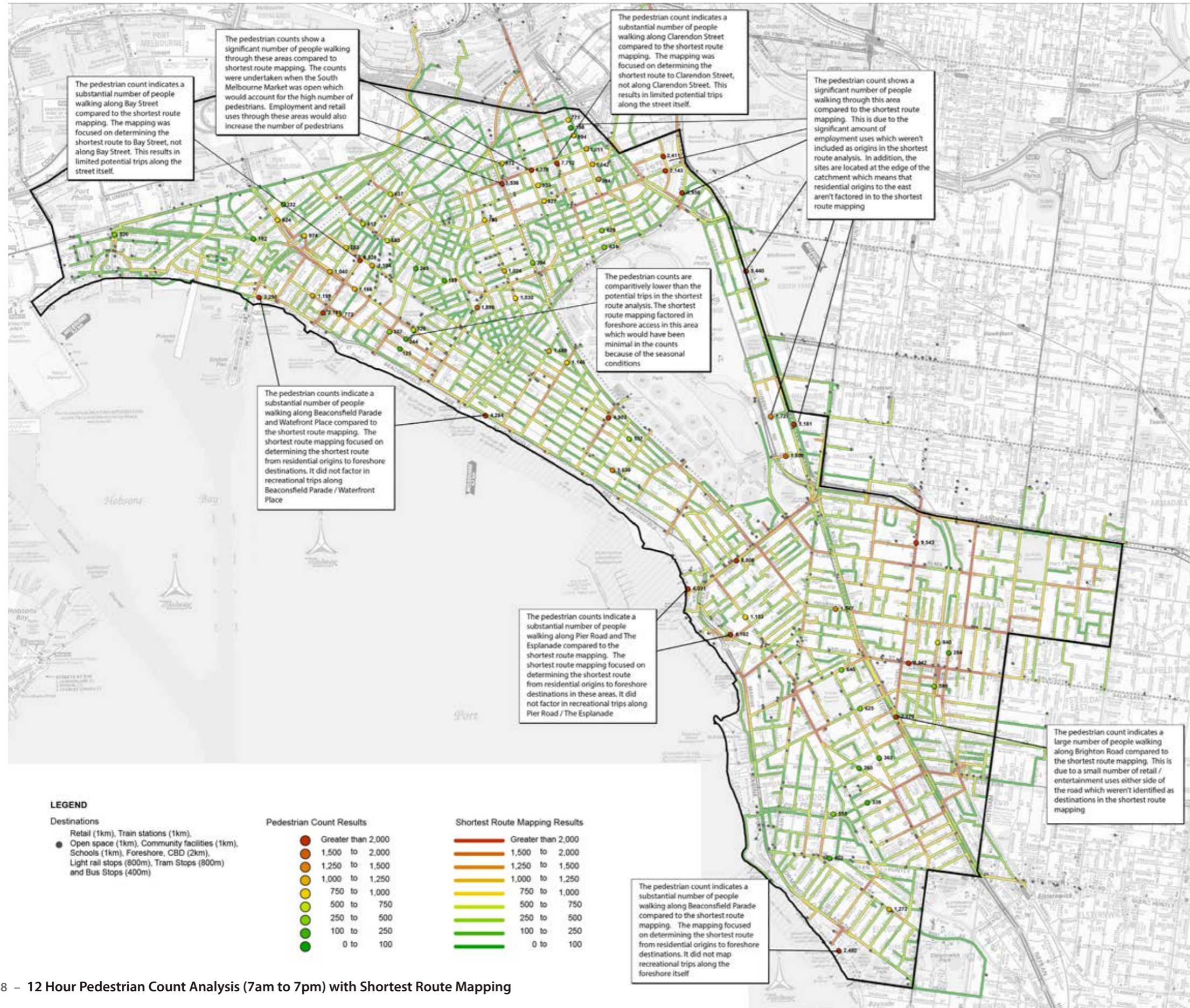


Figure 18 – 12 Hour Pedestrian Count Analysis (7am to 7pm) with Shortest Route Mapping

04 PRINCIPAL PEDESTRIAN NETWORK

4.1 Delineating the PPN

The pedestrian access mapping analysis and validation undertaken in Stages 1 and 2 provided the major input for delineating the PPN.

The shortest route mapping provided an estimate of the potential volumes of pedestrian trips along key streets in the municipality. The pedestrian counts provided validation of the shortest route mapping and identified additional routes not identified in the mapping. Local knowledge from Council officers also provided another level of validation and identification of additional routes.

The PPN is delineated with three levels of priority:

- **Primary** - These routes form the foundation of the PPN where a high level of pedestrian priority is assigned. These routes will be a major focus for the implementation of future walking infrastructure improvements.
- **Secondary** - These routes will provide a secondary role to the primary routes and will be assigned a high level of pedestrian priority. A secondary focus for future infrastructure works will be assigned to these routes.
- **Other** - This includes the balance of the pedestrian network within the walkable catchment which is not identified as Primary or Secondary. Although these routes are not assigned a significant role in the PPN, they are recognised as providing a level of local pedestrian priority because of their feeder role from residential origins to the Secondary and Primary routes.

4.1.1 Considerations for delineating the PPN

The following principles provided the key considerations for delineating the PPN:

- Links that were shown to **carry a significant number of potential pedestrian trips in the shortest route mapping** were included.
- Links that recorded **significant numbers of pedestrians through the pedestrian counts** were included. The pedestrian counts also helped to determine the level of priority assigned to each PPN route.
- **Key shopping strips** were included. The shopping strips did not always appear as popular routes in the shortest route mapping because of the locations of the destinations points. These streets however are known to be a focus for pedestrian activity and therefore should be incorporated as part of the PPN.
- **Links between key related destinations** were included. Connections between a shopping strip and a major nearby park, or the link between a shopping strip and a major transport node are examples of related destinations.
- **Existing major off-street links** i.e. the light rail path, beach trail were included. These links provide ready-made priority pedestrian infrastructure and will form an important part the PPN.

- **Ensuring a connected network of streets.** The PPN should provide continuous pedestrian priority between key origins and destinations therefore all streets within the PPN should be connected. This may mean that some streets are included in the PPN even when the mapping shows that they have a low number of potential pedestrian trips.

4.1.2 Validating with local knowledge

Findings of workshop with Council Officers and DoT

A workshop was held on 9 May 2013 to discuss the findings of the shortest route analysis and pedestrian counts and discuss the draft PPN. The workshop provided the opportunity for Council officers to provide feedback on the draft PPN utilising local knowledge and their understanding of the municipality. This step is important in validating the Draft PPN given the limitations of the shortest route mapping.

During the workshop the delineation of Primary and Secondary routes was tested and some changes were made based on pedestrian counts and officer knowledge validation.

Key Findings

4.1.3 The Process

The project method has broadly followed the steps outlined in the DoT methodology, which recommends a process of mapping and validation to delineate, test and refine the PPN.

In this project, the shortest route mapping was effectively validated by the pedestrian counts, which showed good correlation between the potential and actual usage of pedestrian routes. The draft PPN was then delineated and refined through two workshops with Council officers.

This project has also enhanced the recommended DoT methodology. In particular, the use of a number of primary destination types (retail, public transport, community facilities etc.) has resulted in a PPN which better reflects the characteristics of the municipality, where significant densities of people have access to multiple destinations within walking distance.

Another enhancement of the DoT methodology was the identification of three tiers of pedestrian priority. This ensures the implementation of projects can be better prioritised across the study area.

4.1.4 The PPN

The process of testing and refining the PPN has resulted in the delineation of a robust pedestrian network, which encompasses key routes connecting multiple destinations across the study area.

The PPN shows a greater density of parallel primary and secondary routes in the South Melbourne area, which will support the higher proportion of employment and retail uses through this area. Several key links into the CBD are also identified for this area.

Through the Port Melbourne area there is a focus on east-west movement, which reflects access into Bay Street and other key destinations throughout this area. The primary routes in Middle Park similarly have an east west focus and are supported by north south links connecting the foreshore to Albert Park.

St Kilda Road is delineated as primary PPN route based the significant employment uses in the area and its role in connecting people into the CBD.

The PPN within the FBURA has been based on the future shortest route analysis and strategic documents provided for the area. This will ensure that future private development and public realm works will contribute positively to the enhancement of these routes.

The primary routes through St Kilda and St Kilda East reflect the network of north-south and east-west major roads. In Elwood, there is a greater number of secondary routes due to the lower amount of pedestrian activity in this area identified through the pedestrian counts.

A number of major off-street links are identified as primary routes being the light rail shared path, the foreshore shared path, the Elwood Canal shared path and Balaclava Link. Pedestrian routes through Albert Park are categorised as secondary routes and managed by Parks Victoria.

Figure 19 shows where signalised intersections and roundabouts overlap with the PPN. A number of the signalised intersections are already identified through the 'Green Light' implementation program and others, as well as roundabouts, could provide a focus for future pedestrian improvements.

PRINCIPAL PEDESTRIAN NETWORK

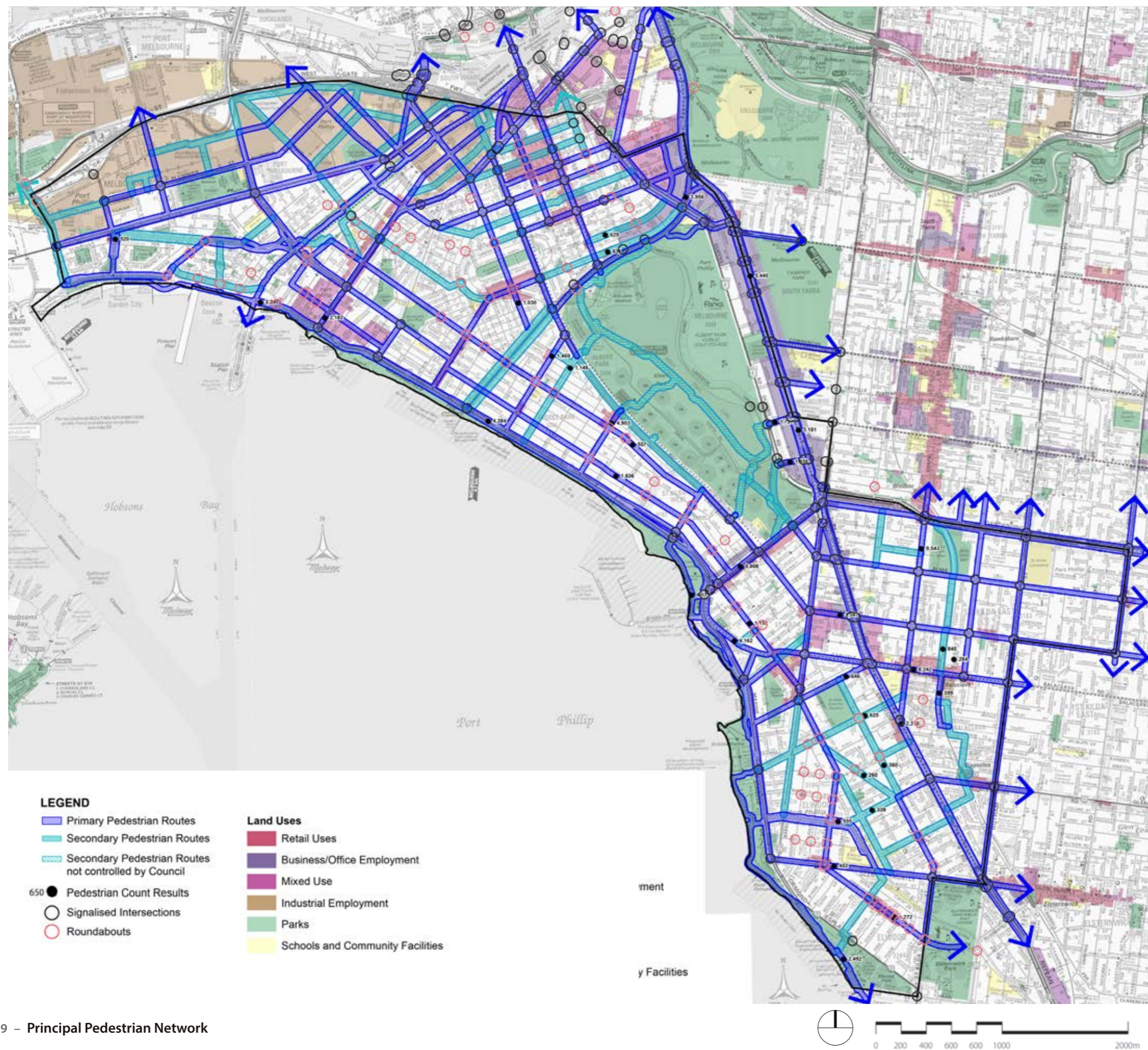


Figure 19 – Principal Pedestrian Network

05 NEXT STEPS AND FUTURE WORK

The PPN delineates the Primary, Secondary and Other pedestrian routes that cater for walking for the purpose of transport.

The PPN can be used to inform the location and prioritisation of capital works and pedestrian priority projects, and future strategic planning to encourage walking for transport.

5.1 Walk Plan 2011-2020

Council's Walk Plan identifies a number of projects across the municipality which will help to improve pedestrian priority, particularly over intersections.

Many of the Walk Plan actions are consistent with the alignment of the PPN (refer to Figure 20). This provides good support through establishing further strategic 'need' for the continued implementation of many of the projects within the Walk Plan. A higher level priority will be assigned to projects that are located along the Primary Routes within the PPN, as strategic walking routes.

Additional projects may be added to the Walk Plan as gaps in the network are identified along the PPN through the gaps analysis stage (refer to 5.3).

5.2 VicRoads' SmartRoads Network Operating Plan

The only roads within the study area designated for pedestrian priority under VicRoads' SmartRoads Network Operating Plan Road Use Hierarchy are the key retail streets within the CoPP. Figure 21 shows how the existing SmartRoads Road Use Hierarchy integrates with the PPN.

The PPN will provide an effective tool to promote the need for pedestrian priority on other roads in the municipality. The PPN needs to be incorporated into the SmartRoads Network Operating Plan by VicRoads to ensure that the operation of the road network supports pedestrian priority in appropriate locations of the study area.

Council will need to initiate the updating of the Network Operating Plan through discussions with VicRoads, as it is recognised that sufficient time is needed to ensure the VicRoads process is followed through to completion. Council and VicRoads will be breaking new ground through this process.

Council has through its Walk Plan development already identified improvements at key intersections and traffic signals on the PPN that could be assessed by VicRoads against the Network Operating Plan.

The key steps are as follows:

- **Update the Road Use Hierarchy** - Work with VicRoads to update the road use hierarchy with the findings of the PPN and provide for greater provision of pedestrian priority throughout the study area.
- **Assign a desired level of service** - Work with VicRoads to assign a desired level of service to each transport mode across the study area. The allocation of primary and secondary PPN routes will help to guide the level of service for pedestrians.
- **Develop the Network Operating Plan** - Work with VicRoads to recommend changes to signalised intersections and provision of pedestrian infrastructure along the PPN to reflect the level of service previously assigned.

5.3 Gaps Analysis and PPN Action Plan

An analysis of the primary and secondary routes of the PPN should be undertaken to identify any 'gaps' in the existing pedestrian network. These gaps can present opportunities for pedestrian improvement consistent with the goals and strategies within the Walk Plan 2011-2020. This analysis is undertaken through an audit process to identify areas where pedestrian infrastructure is inadequate and outline potential new projects for future improvement of the PPN.

A PPN action plan should also be developed to identify and prioritise any planned walking infrastructure projects and new projects identified through the gaps analysis.

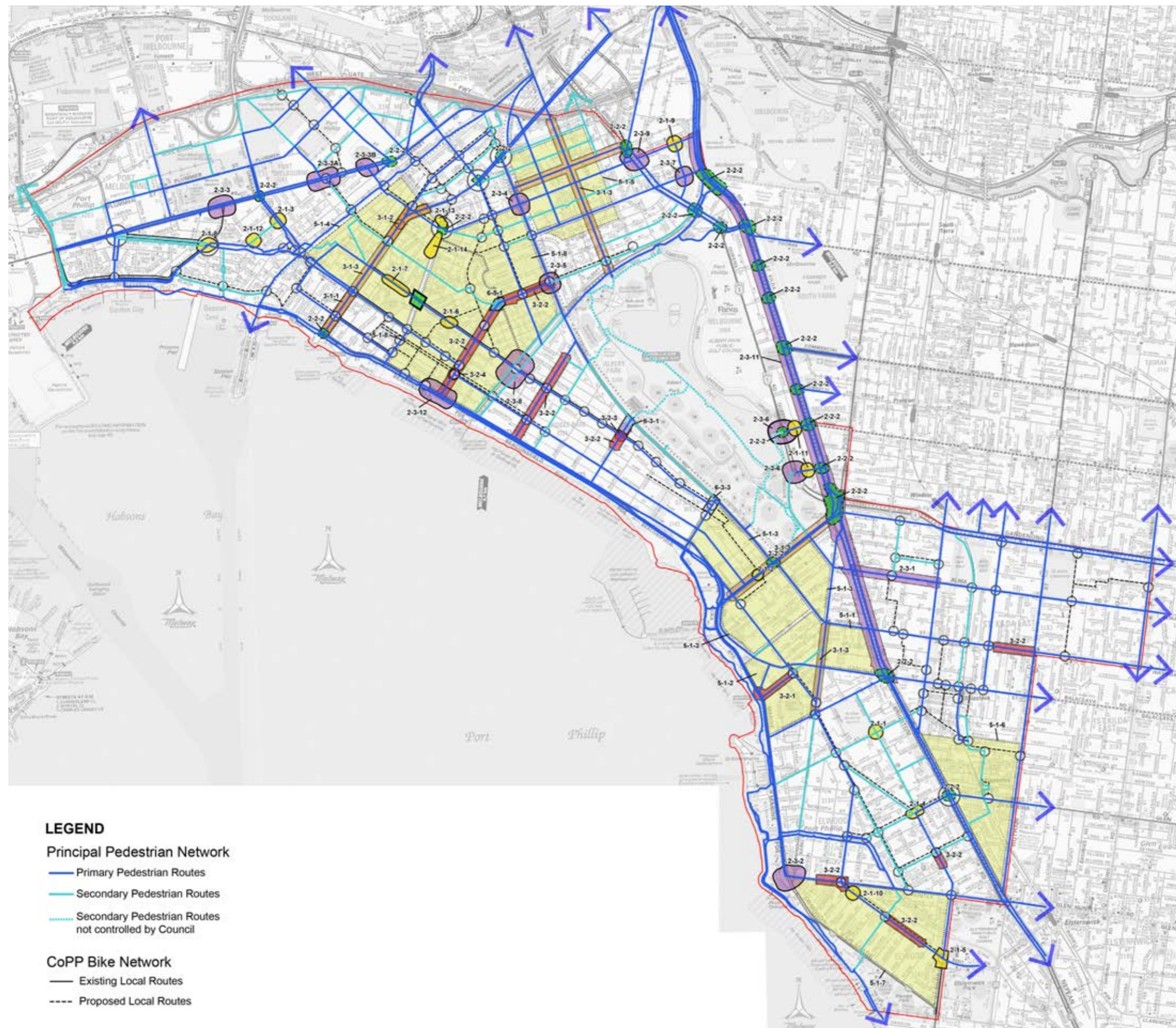
5.4 Collaboration and Partnerships

Council's pioneering efforts to develop a strategic walking network in the form of the PPN means that the CoPP is well placed to partner and collaborate with State Government agencies such as the DoT and VicRoads. This collaboration is vital for Council to realise the future work outlined, as key tools need to be devised to facilitate increased uptake of walking, and this is best done with the State Government and other Councils to provide consistency and ensure acceptance.

The development of levels of service for pedestrians along walking routes on the PPN and audit methodologies are examples of tools that need to be developed and applied consistently to provide an appropriate level of acceptance by other agencies and stakeholders.

Within Council, the PPN will be applied more broadly to influence transport and land use outcomes through strategic planning and urban design and operational procedures and policies, such as road and footpath maintenance.

WALK PLAN 2011-2020 PROJECTS AND PPN



WALK PLAN PROJECTS

Action	Location
Strategy 2	Prioritise the Crossing of Side-Streets and Roads
2.1	Local and Non-Signalised Intersections
2-1-1	Tennyson Street / Dickens Street roundabout
2-1-2	Fitzroy Street / Loch Street
2-1-3	Clarke Street / Graham Street
2-1-4	Tennyson Street / Southey Street / Byron Street
2-1-5	St Kilda Street / Ormond Road
2-1-6	Richardson Street / Bridport Street West roundabout
2-1-7	Liardet Street between Edwards Reserve and Lagoon Reserve
2-1-8	Beacon Road (at Howe Parade)
2-1-9	Dorcas Street / Wells Street roundabout
2-1-10	Ormond Road / Tiuna Street
2-1-11	Lorne Street and Union Street, over Queens Lane
2-1-12	Clark Street and Poolman Street
2-1-13	Ingles Street (on approach to Pickles Street)
2-1-14	Pickles Street (Spring Street East and Cruikshank Street)
TOTAL	\$1,370,000 - \$1,775,000
2.2	Greenlight for Pedestrians on Major Roads
2-2-2	Pedestrian Priority at 22 identified intersections
	Implemented Greenlight Pedestrian Priority Intersection
TOTAL	\$155,000 - \$1,550,000
2.3	Arterial Roads and Signalised Intersections
2-3-1	Alma Road, between Brighton Road and Chapel Street
2-3-2	Marine Parade at Glen Huntly Road
2-3-3-A	Phase A: Bridge Street and Williamstown Road
2-3-3-B	Phase B: Raglan Street and Williamstown Road
2-3-4	Dorcas Street at Ferrars Street
2-3-5	Ferrars Street at Bridport Street
2-3-6	Queens Road, Lorne Street and Queens Road, Union Street
2-3-7	Park Street / Wells Street intersection
2-3-8	Kerferd Road / Richardson Street roundabout
2-3-9	Kings Way at Dorcas Street
2-3-10	St Kilda Junction
2-3-11	St Kilda Road and intersecting side streets
2-3-12	Victoria Avenue / Beaconsfield Parade
TOTAL	\$6,400,000 - 13,046,000
2.4	Informal Walkability on Local Bike Routes
TOTAL	\$2,700,000 - 3,300,000
Strategy 3	Improve the Walking Environment within Key Destinations
3.1	Prioritise walking through shopping strips and neighbourhood centres
A. Activity Centres	
3-1-1-A	Phase A: Bay Street, between Bridge Street and Ingles Street
3-1-1-B	Phase B: Bay Street, between Beach Street and Graham Street
3-1-2	Bay Street at Spring Street North
3-1-3	Side Street Ped Priority: Clarendon Street, Coventry Street and Bay Street
TOTAL	\$5,580,000 - 6,930,000
B. Neighbourhood Centres and Local Shopping Strips	
3-2-1	Shakespeare Grove
3-2-2	Side Street Ped Priority: Glen Huntly Road, Victoria Avenue and Bridport Street
3-2-3	Richardson Street / Armstrong Street roundabout
3-2-4	Victoria Avenue / Danks Street intersection
TOTAL	\$1,925,000 - 5,165,000
Strategy 5	Improve the Accessibility and Safety of our Streets
5.1	Safer Streets for Everyone (Speed Limited Local Areas)
5-1-1	Barkly Street
5-1-2	Acland Street
5-1-3	Fitzroy Street
5-1-4	Bay Street
5-1-5	Clarendon Street
5-1-6	Glen Eira Road
5-1-7	Ormond Road
5-1-8	Victoria Avenue - Bridport Street
5-1-9	Identify future areas that would benefit from reduced speed limits
TOTAL	\$533,000 - 545,000
Strategy 6	Create Places for People
6.3	Shared Zones / Places
6-3-1 (6-2-1)	Armstrong Street at Erskine Street / Canterbury Place (Middle Park Shopping Strip)
6-3-3 (6-3-4)	Intersection of Cowderoy Street at Canterbury Road
6.5	Permanent People Places
6-5-1	Bridport Street / Merton Street / Victoria Street / Cardigan Place
TOTAL	\$210,000-260,000

LEGEND

Principal Pedestrian Network

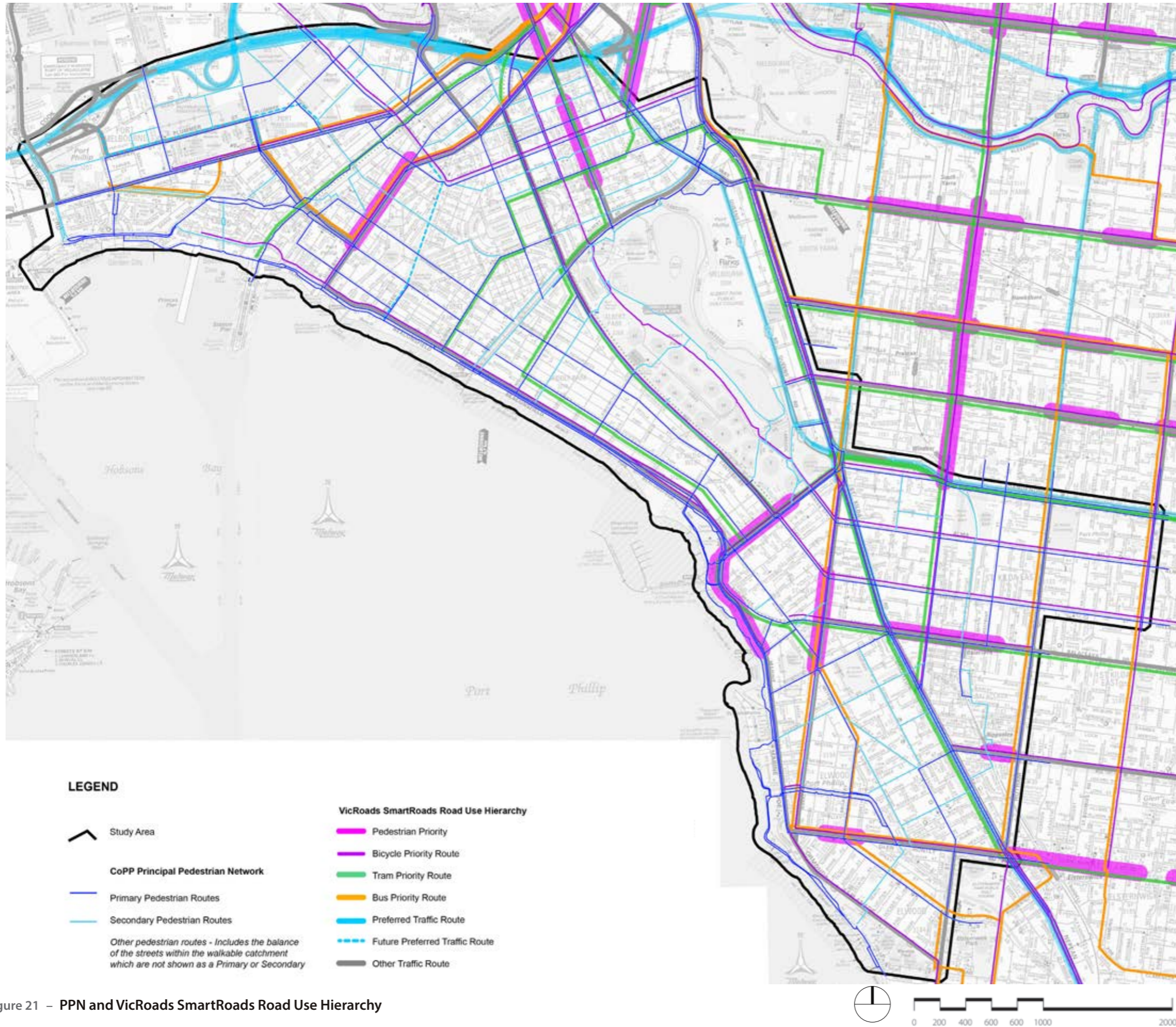
- Primary Pedestrian Routes
- Secondary Pedestrian Routes
- - - Secondary Pedestrian Routes not controlled by Council

CoPP Bike Network

- Existing Local Routes
- - - Proposed Local Routes

Figure 20 – Walk Plan 2011-2020 Projects and PPN

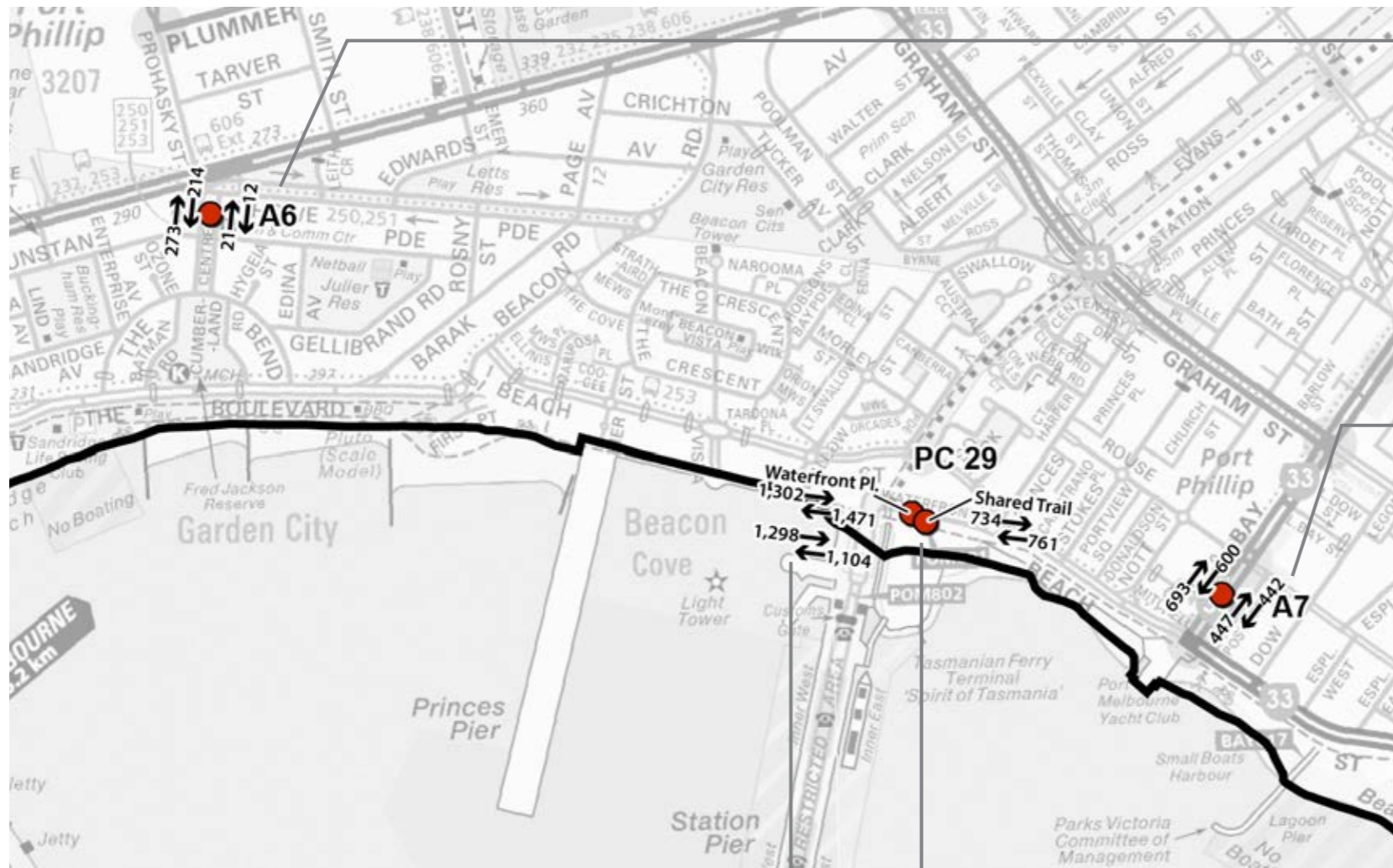




PPN AND SMARTROADS ROAD USE HIERARCHY

Figure 21 – PPN and VicRoads SmartRoads Road Use Hierarchy

APPENDIX B PEDESTRIAN COUNT DETAILS - MARCH 2013



Location: A6 - Central Avenue

Time Period	Western Side Footpath			Eastern Side footpath			Total
	NB	SB	Sub-total	NB	SB	Sub-total	
7:00 to 8:00	42	35	77	3	2	5	82
8:00 to 9:00	18	18	36	2	0	2	38
9:00 to 10:00	18	14	32	2	1	3	35
10:00 to 11:00	54	38	92	3	3	6	98
11:00 to 12:00	23	19	42	2	0	2	44
12:00 to 13:00	26	16	42	2	1	3	45
13:00 to 14:00	17	22	39	2	2	4	43
14:00 to 15:00	13	8	21	1	0	1	22
15:00 to 16:00	18	11	29	0	1	1	30
16:00 to 17:00	14	14	28	2	1	3	31
17:00 to 18:00	18	8	26	1	0	1	27
18:00 to 19:00	12	11	23	1	1	2	25
Total	273	214	487	21	12	33	520

Location: A7 - Bay Street

Time Period	Western Side Footpath			Eastern Side footpath			Total
	NB	SB	Sub-total	NB	SB	Sub-total	
7:00 to 8:00	29	35	64	48	28	76	140
8:00 to 9:00	56	37	93	42	23	65	158
9:00 to 10:00	47	62	109	22	41	63	172
10:00 to 11:00	43	51	94	76	43	119	213
11:00 to 12:00	96	55	151	56	42	98	249
12:00 to 13:00	70	103	173	29	68	97	270
13:00 to 14:00	44	74	118	41	50	91	209
14:00 to 15:00	70	46	116	20	20	40	156
15:00 to 16:00	48	21	69	30	26	56	125
16:00 to 17:00	72	54	126	30	50	80	206
17:00 to 18:00	57	27	84	19	19	38	122
18:00 to 19:00	61	35	96	34	32	66	162
Total	693	600	1,293	447	442	889	2,182

Location: PC 29 - Waterfront Place

Time Period	Northern Side Footpath			Southern Side footpath			Total
	WB	EB	Sub-total	WB	EB	Sub-total	
7:00 to 8:00	26	28	54	42	51	93	147
8:00 to 9:00	34	48	82	40	47	87	169
9:00 to 10:00	96	37	133	65	68	133	266
10:00 to 11:00	54	57	111	59	36	95	206
11:00 to 12:00	63	79	142	66	50	116	258
12:00 to 13:00	65	128	193	71	47	118	311
13:00 to 14:00	103	63	166	86	91	177	343
14:00 to 15:00	89	68	157	51	92	143	300
15:00 to 16:00	83	112	195	91	165	256	451
16:00 to 17:00	93	70	163	52	110	162	325
17:00 to 18:00	104	47	151	40	54	94	245
18:00 to 19:00	107	52	159	51	59	110	269
Total	917	789	1,706	714	870	1,584	3,290

Location: PC 29 - Shared Trail

Time Period	Bay Trail			Total
	WB	EB	Sub-total	
7:00 to 8:00	24	25	49	49
8:00 to 9:00	21	26	47	47
9:00 to 10:00	48	44	92	92
10:00 to 11:00	58	51	109	109
11:00 to 12:00	71	69	140	141
12:00 to 13:00	68	89	157	158
13:00 to 14:00	106	63	169	170
14:00 to 15:00	67	43	110	111
15:00 to 16:00	64	51	115	116
16:00 to 17:00	70	65	135	136
17:00 to 18:00	58	51	109	110
18:00 to 19:00	59	49	108	109
Total	714	626	1,340	1,347

Location: PC10 - Southey Street

Time Period	Western Side Footpath			Eastern Side footpath			Total
	NB	SB	Sub-total	NB	SB	Sub-total	
7:00 to 8:00	2	4	6	8	3	11	17
8:00 to 9:00	3	3	6	6	7	13	19
9:00 to 10:00	2	8	10	6	5	11	21
10:00 to 11:00	5	4	9	6	1	7	16
11:00 to 12:00	1	11	12	5	5	10	22
12:00 to 13:00	1	2	3	5	1	6	9
13:00 to 14:00	3	4	7	2	3	5	12
14:00 to 15:00	1	6	7	10	6	16	23
15:00 to 16:00	0	4	4	5	6	11	15
16:00 to 17:00	2	6	8	13	9	22	30
17:00 to 18:00	10	13	23	16	12	28	51
18:00 to 19:00	2	3	5	13	7	20	25
Total	32	68	100	95	65	160	260

Location: PC9 - Tennyson Street

Time Period	Western Side Footpath			Eastern Side footpath			Total
	NB	SB	Sub-total	NB	SB	Sub-total	
7:00 to 8:00	5	6	11	5	6	11	22
8:00 to 9:00	18	10	28	10	7	17	45
9:00 to 10:00	4	9	13	8	11	19	32
10:00 to 11:00	4	10	14	11	4	15	29
11:00 to 12:00	11	5	16	7	7	14	30
12:00 to 13:00	4	4	8	1	3	4	12
13:00 to 14:00	2	3	5	4	5	9	14
14:00 to 15:00	4	9	13	5	6	11	24
15:00 to 16:00	9	9	18	1	4	5	23
16:00 to 17:00	9	11	20	7	7	14	34
17:00 to 18:00	15	8	23	9	10	19	42
18:00 to 19:00	10	18	28	14	11	25	53
Total	95	102	197	82	81	163	360

Location: PC5 - Byron Street

Time Period	Northern Side Footpath			Southern Side footpath			Total
	WB	EB	Sub-total	WB	EB	Sub-total	
7:00 to 8:00	3	17	20	4	6	10	30
8:00 to 9:00	17	17	34	1	14	15	49
9:00 to 10:00	4	6	10	15	5	20	30
10:00 to 11:00	1	7	8	11	9	20	28
11:00 to 12:00	1	4	5	4	7	11	16
12:00 to 13:00	2	9	11	10	5	15	26
13:00 to 14:00	7	8	15	9	7	16	31
14:00 to 15:00	1	5	6	10	7	17	23
15:00 to 16:00	4	8	12	3	4	7	19
16:00 to 17:00	5	2	7	11	5	16	23
17:00 to 18:00	6	0	6	11	3	14	20
18:00 to 19:00	11	5	16	21	7	28	44
Total	62	88	150	110	79	189	339

Location: A4 - Glen Huntly Road

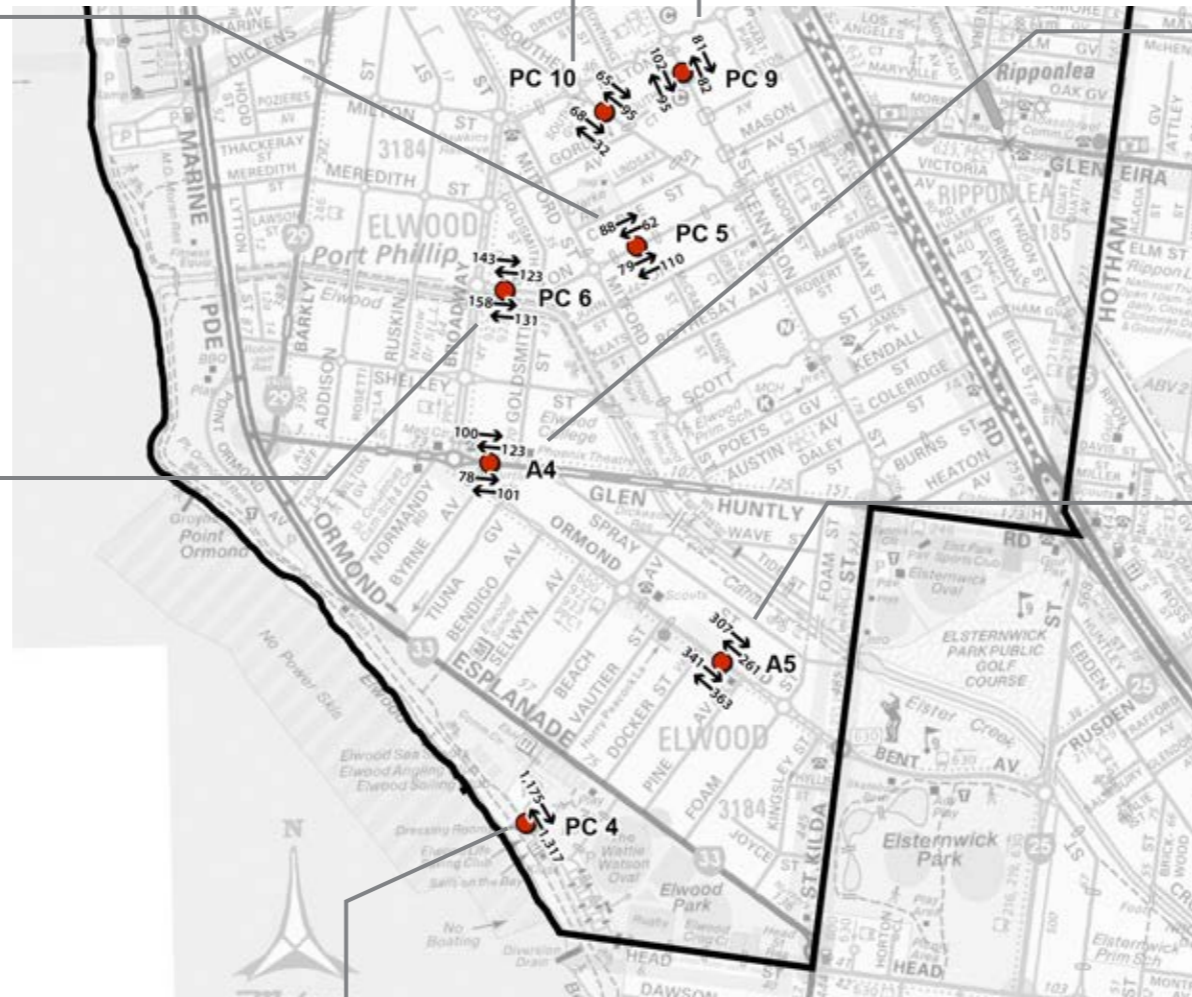
Time Period	Northern Side Footpath			Southern Side footpath			Total
	WB	EB	Sub-total	WB	EB	Sub-total	
7:00 to 8:00	3	17	20	4	6	10	30
8:00 to 9:00	17	17	34	1	14	15	49
9:00 to 10:00	4	6	10	15	5	20	30
10:00 to 11:00	1	7	8	11	9	20	28
11:00 to 12:00	1	4	5	4	7	11	16
12:00 to 13:00	2	9	11	10	5	15	26
13:00 to 14:00	7	8	15	9	7	16	31
14:00 to 15:00	1	5	6	10	7	17	23
15:00 to 16:00	4	8	12	3	4	7	19
16:00 to 17:00	5	2	7	11	5	16	23
17:00 to 18:00	6	0	6	11	3	14	20
18:00 to 19:00	11	5	16	21	7	28	44
Total	62	88	150	110	79	189	339

Location: PC6 - Elwood Canal

Time Period	Northern Side Footpath			Southern Side (Shared Path)			Total
	WB	EB	Sub-total	WB	EB	Sub-total	
7:00 to 8:00	10	10	20	12	16	28	48
8:00 to 9:00	13	10	23	14	12	26	49
9:00 to 10:00	7	16	23	8	13	21	44
10:00 to 11:00	9	9	18	10	14	24	42
11:00 to 12:00	10	10	20	8	10	18	38
12:00 to 13:00	7	12	19	7	12	19	38
13:00 to 14:00	10	11	21	12	14	26	47
14:00 to 15:00	13	9	22	11	10	21	43
15:00 to 16:00	7	14	21	6	14	20	41
16:00 to 17:00	6	12	18	7	17	24	42
17:00 to 18:00	14	20	34	18	16	34	68
18:00 to 19:00	17	10	27	18	10	28	55
Total	123	143	266	131	158	289	555

Location: A5 - Ormond Road

Time Period	Northern Side Footpath			Southern Side footpath			Total
	WB	EB	Sub-total	WB	EB	Sub-total	
7:00 to 8:00	12	13	25	11	19	30	55
8:00 to 9:00	18	33	51	19	18	37	88
9:00 to 10:00	17	17	34	24	16	40	74
10:00 to 11:00	19	19	38	24	25	49	87
11:00 to 12:00	23	18	41	33	33	66	107
12:00 to 13:00	25	18	43	28	49	77	120
13:00 to 14:00	27	29	56	42	42	84	140
14:00 to 15:00	24	27	51	36	21	57	108
15:00 to 16:00	28	44	72	28	32	60	132
16:00 to 17:00	17	27	44	20	34	54	98
17:00 to 18:00	29	28	57	37	34	71	128
18:00 to 19:00	22	34	56	39	40	79	135
Total	261	307	568	341	363	704	1,272



Location: PC4 - Elwood Life Saving Club, shared path

Time Period	Shared Path			Southern Side footpath			Total
	NB	SB	Sub-total	NB	SB	Sub-total	
7:00 to 8:00	5	7	12	0	0	0	12
8:00 to 9:00	26	33	59	0	0	0	59
9:00 to 10:00	43	34	77	0	0	0	77
10:00 to 11:00	72	55	127	0	0	0	127
11:00 to 12:00	91	78	169	0	0	0	169
12:00 to 13:00	102	112	214	0	0	0	214
13:00 to 14:00	114	141	255	0	0	0	255
14:00 to 15:00	142	112	254	0	0	0	254
15:00 to 16:00	162	146	308	0	0	0	308
16:00 to 17:00	185	155	340	0	0	0	340
17:00 to 18:00	175	133	308	0	0	0	308
18:00 to 19:00	200	169	369	0	0	0	369
Total	1,317	1,175	2,492	0	0	0	2,492

APPENDIX C LIST OF PRIMARY DESTINATIONS

Retail Desintations

- Acland Street, St Kilda
- Armstrong Street, Middle Park
- Bay Street, Port Melbourne
- Carlisle Street, Balaclava
- Cecil Street, South Melbourne
- Centre Avenue, Port Melbourne
- Chapel Street, Windsor (outside CoPP)
- Clarendon Street, South Melbourne
- Fitzroy Street, St Kilda
- Glen Eira Road, Ripponlea
- Glen Huntly Road, Elsternwick (outside CoPP)
- Glen Huntly Road, Elwood
- Inkerman Street, St Kilda East
- Liardet Street, Port Melbourne
- Malvern Road, Prahran (outside CoPP)
- Market Street, South Melbourne
- Ormond Road, Elwood
- South Melbourne Market
- South Wharf DFO (outside CoPP)
- Tennyson Street, Elwood
- Victoria Street and Bridport Street, Albert Park

Train Stations

- Armadale (outside CoPP)
- Balaclava
- Elsternwick (outside CoPP)
- Hawksburn (outside CoPP)
- Prahran (outside CoPP)
- Richmond (outside CoPP)
- Ripponlea
- South Yarra (outside CoPP)
- Toorak (outside CoPP)
- Windsor (outside CoPP)

Light Rail Stops (along the routes listed below)

- Routes 96 and 109

Tram Stops (along the routes listed below)

- Routes 1, 3, 3a, 5, 6, 8, 16, 55, 64, 67, 72, 78, 79 and 112

Bus Stops (along the routes listed below)

- Routes 253, 246 and 606

Schools

- Albert Park College
- Albert Park Primary School
- Caulfield Grammar Senior School
- Elsternwick Primary School
- Elwood College
- Elwood Primary School
- Galilee Regional Catholic Primary School
- King David School (outside CoPP)
- Mac. Robertson Girls High School
- Melbourne Grammar School (outside CoPP)
- Middle Park Primary
- Port Melbourne Primary School
- Presentation College (outside CoPP)
- St Columbus Catholic School
- St Kilda Park Primary School
- St Kilda Primary School
- St Mary's Primary School
- St Michaels Grammar School
- Stonnington Primary School
- Wesley College (outside CoPP)
- Yeshivah College (outside CoPP)

Community Facilities

- Ada Mary A'beckett Children's Centre
- Albert Park Library
- Alma Road Neighbourhood House
- Bubup Nairn Family and Children's Centre
- Catholic Archdiocese of Melbourne
- City of Port Phillip Council
- Elwood Shule
- Elwood Tennis Club
- Lady Foster Kindergarten
- Mary Kehoe Community Playground
- Melbourne Playback Theatre Company
- Middle Park Library
- Middle Park Community Playground
- North St Kilda Children's Centre
- Port Melbourne Library
- Port Melbourne Neighbourhood House
- Port Phillip Eco Centre
- St Kilda Town Hall
- St Kilda Library
- St Peter & Paul's Church (formerly the South Melbourne Commons)
- The Uniting Church In Australia
- York Street Kindergarten

Open Space Destinations

- Albert Park
- Alma Park East
- Alma Park West
- Anderson Oval
- Buckingham Reserve
- Cantani Gardens
- Chris Gahan Reserve (outside CoPP)
- Clarke Reserve
- Cook Reserve
- Cyril Letts Reserve
- Edwards Park
- Elsterwick Park (outside CoPP)
- Fawkner Park
- Fred Jackson Reserve
- Garden City Reserve
- Gasworks Arts Park
- Gladstone Gardens (outside CoPP)
- Green meadows Gardens
- Jacobs Reserve
- Junction Oval
- Lagoon Reserve
- Lumie Park (outside CoPP)
- Middle Park Community Playground
- Moran Reserve
- Murphy Reserve – Anderson Oval
- Open space corner of Greville Street and Moubay Street (outside CoPP)
- Paul Hester Walk
- Peanut farm reserve
- Playground between Erskine Street and Richardson Street
- RF Julier Reserve
- School Park
- Smith Reserve
- St Kilda Botanical Gardens
- St Kilda Foreshore
- St Leonards Place
- St Vincents Garden
- Talbot Reserve
- Te-Arai Reserve
- The Wattie Watsons Oval
- Turner Reserve
- Walter Reserve
- William Street Reserve
- Windsor Siding (outside CoPP)