WILLOUGHBY CITY COUNCIL

City of Diversity

Victoria Avenue Movement and Place Plan

Draft Version for Public Exhibition

November 2024



Acknowledgement of Country

Willoughby City Council acknowledges the Traditional Owners of the lands on which we stand, the Gamaragal people. We pay our respects to their Elders past and present.

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Message from the Mayor



As the central link between the heart of Chatswood and the rest of the Willoughby Local Government Area, Victoria Avenue has experienced an increase in traffic density in recent years. This is especially noticeable on weekends and when shopping is more popular. Council anticipates that traffic demands will increase as the population continues to grow in our city and we commit to opportunities for further vibrancy provided by the 24-hour economy.

Victoria Avenue is the essential spine through Chatswood that hosts a significant portion of the area's vibrant food and retail outlets. Cars, taxis, buses, bicycles, and foot traffic are serviced along the route, beginning at Chatswood Interchange, passing the iconic Chatswood Chase, and feeding onto the Eastern Valley Way.

The Victoria Avenue Movement and Place Plan (VAMPP) will help Council to coordinate its planning for this important part of our local transport network. The Plan reviews the current conditions against our future vision for a vibrant, green, pedestrian and cycle-friendly place, that also provides for bus and car movements. It considers best practice examples and strategies to balancing these various needs successfully.

Council's plan is the next step in our commitment to making Victoria Avenue greener, more inviting and full of life, 24 hours a day. It will help direct future projects and spending on improving conditions for all users of Victoria Avenue ensuring it can flourish as Chatswood grows.

Tanya Taylor
Mayor of Willoughby

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Glossary

TERM	DESCRIPTION
ABS	Australian Bureau of Statistics.
Built Environment	All human-made structures, spaces, and infrastructure and other physical features that shape the surroundings in which people interact.
Built Environment Indicators	A scoring system given to separate parts of the Built Environment as part of the Movement and Place Framework
Built Environment Outcomes (BEO)	Ten user outcomes reflect what a person may reasonably expect as an outcome of good performance of the built environment.
Multi-Mode Boulevard	Multi-Mode Boulevards are streets with low motorised traffic volumes and speeds (typically 30km/h or less), designated and designed to give bicycle travel priority.
Catchment	The geographical area from which a particular service, facility, or resource draws its users, customers, or participants.
Cycling Traffic Stress Level	The comfort level of cycling based on the type of bicycle facility and the level of physical separation from vehicular traffic, as well as the speed and volume of adjacent traffic.
Convenient facilities	Refers to the availability and accessibility of essential amenities and services that support daily living and enhance the quality of life within a community. This built environment outcome is measured by assessing the presence and proximity of key facilities such as shops, schools, parks, healthcare services, public transport nodes, and places for social interaction.
Disability Discrimination Act (DDA)	Disability Discrimination Act, this refers to the Federal Disability Discrimination Act 1992.
Great Places Toolkit	An NSW Government resource that allows users to evaluate the quality of public spaces.
Healthy Streets Framework	A guide for how we evaluate streets to create comfortable, safe, and inviting public spaces.
Human Scale	Refers to the built environment outcome where places are designed to be comfortable, interesting, and safe for people to experience at a human level. This includes factors like the height of buildings, the ratio of street width to building height, and the presence of elements at eye level that engage and interest pedestrians.
Inclusive facility	The facility is designed to be accessible and usable by all people, regardless of their age, ability, or circumstance. This includes ensuring that facilities are physically accessible, providing appropriate signage and information, and incorporating features that support a diverse range of users, including those with disabilities, parents with young children, and elderly individuals.
Liveability	The quality of life and the overall comfort, convenience, and satisfaction experienced by individuals or communities within a particular environment, taking into account factors such as access to amenities, safety, affordability, environmental quality, and social cohesion.
Movement and Place Framework	A cross-government framework for planning and managing roads and streets by evaluating the function and performance of the environment.
Mesh Block	The smallest statistical area used by the ABS and forms the building blocks for larger regions of the Australian Statistical Geography Standards (ASGS). They broadly identify land use as residential, commercial, primary production and parks. (Source: Australian Statistical Geography Standard Edition 3).

TERM	DESCRIPTION
Mobility aid	Mobility aids are devices designed to help people who have problems moving around enjoy greater freedom and independence. This includes mobility scooters, wheelchairs, and walking frames among other devices.
Road Network Classification	The NSW Movement and Place framework classification involves grouping roads based on the environmental context, functions and user activities. It reflects an aspiration for how roads and streets in NSW should be designed to serve their users and to fit their context.
Shared vision	A shared goal for the future state of an area, usually expressed in a vision statement.
Shared path	An area where pedestrians, cyclists, and motor vehicles share the same space. These zones are designed to prioritise pedestrian safety and comfort, often featuring lower speed limits and clear signage to indicate that all users must be mindful of each other.
Separated Cycleway	A dedicated cycling path that is physically separated from motor vehicle traffic and pedestrian areas, designed to provide a safer and more comfortable environment for cyclists.
TfNSW	Transport for New South Wales.
Travel zone	Small geographic areas used to collect and analyse travel data. These zones help in understanding travel patterns, planning transport infrastructure, and forecasting future travel demand.
Urban heat island effect	An urban heat island (UHI) is an urban area that is significantly warmer than surrounding rural areas. UHIs develop in areas with hard, sealed surfaces and a lack of vegetation. The hard surfaces absorb, store and radiate heat into the surrounding area.
Uni-directional cycleways	Separated cycleways going in a single direction on one or both sides of a road.
Shared Zone	Is a road or network of roads where vehicles and pedestrians share the road space safely. The maximum speed limit is 10km/h.
Walking Space Guideline	A Transport for New South Wales document which provides a set of standards and tools to assist those responsible for walking spaces on streets, to ensure that sufficient space is provided to achieve comfortable environments which encourage people to walk.
Walking Level of Service (LoS)	Evaluation of the walking space available given its expected volume of people.
Walkshop	A participatory workshop that takes place outdoors, typically involving walking through a specific area to observe, discuss, and brainstorm ideas.
Water Sensitive Urban Design (WSUD)	Street design that allows water to infiltrate the ground, including implementation of green infrastructure such as trees, rain gardens or swales that can capture and treat stormwater before it enters the municipal storm sewer.
Wombat Crossing	A type of pedestrian crossing in Australia that features a raised platform, similar to a speed hump, designed to slow down traffic and provide a safer crossing for pedestrians.
15-minute neighbourhood	15-minute neighbourhoods support local communities and healthy lifestyles by prioritising place making, walking, cycling, micromobility and last mile freight.
30-minute cities	All public transport modes contribute to delivering 30-minute cities, which reduce private vehicle use and increase sustainable transport use.

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1.Introduction

1.1 PROJECT BACKGROUND

Victoria Avenue serves as the main high street of the Chatswood CBD, boasting vibrant movement and place functions. It grants access to retail precincts, schools, offices, transport services, and residential accommodation. However, it also serves as a major east-west route for traffic and bus services, leading to issues of congestion, road safety, and competition between different modes.

The Willoughby Integrated Transport Strategy (ITS) 2036 plays a pivotal role in guiding the Council's intentions. It outlines the Council's commitment to complete Movement and Place Plans for all its strategic and local centres, including the Chatswood CBD. These plans are designed to align with the Movement and Place framework, a strategic approach to prioritise and balance the street's competing functions.

As a precursor to a CBD-wide Movement and Place Plan, the Victoria Avenue Movement and Place Plan is a pilot project, demonstrating how the Movement and Place concept can be applied at a relatively smaller scale for one street.

1.2 PURPOSE

The purpose of this study is to pilot the Movement and Place approach, a strategic planning method. The study aims to refine a planning procedure for future place plans and strategies, with the ultimate goal of enhancing the urban environment and improving the quality of life for residents and visitors.

The project's key objectives are:

- Develop a Movement and Place plan for Victoria Avenue
- Pilot and refine the Movement and Place methodology for scalability to a town-centre level
- Integrate land use and transport
- Utilise contemporary best practices in planning, urban design, and transport
- Place the Movement and Place Framework at its core
- Recognise and enhance Victoria Avenue's place function while balancing it with its movement function

1.3 SCOPE OF WORK

In 2022, Willoughby City Council commissioned Crossley Transport Planning (CrossleyTP) to carry out a Movement and Place plan for Victoria Avenue, spanning from Anderson Street to Penshurst Street. The key activities included conducting research, demographic analyses, surveying the street using a variety of tools, and engaging with the community and stakeholders.



Figure 1-1: Victoria Avenue looking west to Bertram Street (Source: Crossley TP, 2024)

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1.4 MEASURING WHAT MATTERS

To ensure we focused on what matters most to the community and Council, our initial steps involved reviewing current policies, plans, and strategies. This process led to the identification of key evaluation criteria measuring desired outcomes and goals, shaping the project scope. To achieve this, we employed a suite of best practice tools to measure broad community outcomes. This section summarises the tools used and their capabilities in assessing factors relevant to the project's objectives, such as liveability, health and access.

1.4.1 Built Environment Indicator Tool

To ensure a targeted approach to enhancing Victoria Avenue, we utilised the Built Environment Indicator Tool to assess various aspects of good urban design. The built environment encompasses human-made surroundings where people live, work, and interact, including buildings, infrastructure, public spaces, and landscapes. This tool measures street performance across ten outcomes, each scored from zero to three based on values derived from the Movement and Place Built Environment Indicators web map (see Figure 1-2). These scores, detailed in Section 3.7, highlight the current strengths and weaknesses of Victoria Avenue's urban design in delivering liveability outcomes.

The Built Environment Themes, Outcomes, and Indicators provide a consistent framework for assessing movement and place performance. For Victoria Avenue, the Built Environment Outcomes have been used to:

Establish evaluation criteria for the aspired vision and objectives for the street.

To measure the existing performance of Victoria Avenue.

To set targets for the future performance of Victoria Avenue.

Present a performance deficit between the current street performance and the desired future performance.

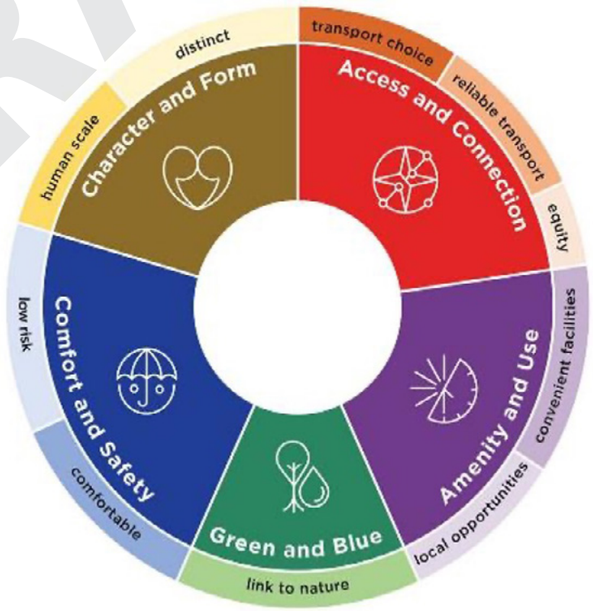

Figure 1-2: Built Environment Indicators (Source: NSW Movement & Place, 2023)

1.4.2 Healthy Streets Framework

The Healthy Streets Framework adopts a people-centric approach to evaluating the layout of a street from building line to building line. It guides street design towards creating comfortable, safe, and inviting public spaces that cater to walking, cycling, and public transport use.

The Australian Healthy Streets Check for Designers Tool, a component of this framework, evaluates the layout of the street and activity to measure 10 indicators representing the attractiveness of the street for walking, cycling or accessing public transport (Figure 1-3). The tool was applied to measure the distinct sections of Victoria Avenue to identify key barriers, challenges, and opportunities to support inclusive design outcomes for the community, promoting health and well-being; and are reported in Section 3.2.8.



Figure 1-3 The ten Healthy Streets Indicators (Source: Lucy Saunders, 2024)

1.4.3 NSW Great Places Toolkit

The Evaluation Tool for Public Space and Public Life is accessible to anyone seeking a deeper understanding of the strengths and areas for improvement in a public space based on four key questions (see Figure 1-4). It guides users through a series of questions to assess public space quality.

These questions were explored during a community walkshop held in March 2024. The responses from the walkshop participants have been used to understand the variety of experiences and perspectives on how well Victoria Avenue caters to their needs, what they appreciate about the street, and what improvements they want to see. The outcomes of this assessment are detailed in Section 4.5



Figure 1-4: Great Public Spaces Themes (Source: NSW Government, 2023)

1.5 METHODOLOGY OF COMMUNITY CONSULTATION

The NSW Movement and Place Framework adopts a place-based approach, with a central focus on capturing user experiences and requirements through collaborative community-led engagements. This approach aims to achieve a shared vision for Victoria Avenue and co-design key outcomes. We have used various methods, including walkshops and workshops, to gather input from people, communities, businesses, and other organisations connected with Victoria Avenue. This marks the beginning of the process, with additional opportunities for public input on the plan and actions.

1.5.1 Walkshop

CrossleyTP designed and led a walkshop held on 20th March 2024 at Victoria Avenue. Nineteen community members participated in the 90-minute walkshop, including residents and key stakeholders, with Council representatives available to address any technical queries. The walkshop commenced at Anderson Street, and participants walked to Crick Street, returning on the opposite footpath. The group stopped at locations of interest such as parks, new developments and retail destinations to discuss and share their thoughts regarding various aspects of the street. Participants were prompted to identify what they liked and disliked about Victoria Avenue and areas for improvement.

At the conclusion of the tour, participants reflected on their experience and completed questions from the Evaluation of Public Space and Public Life survey. They identified three features of the street they loved, three things they disliked, and three priority features they wanted to change.

A walkshop is a workshop format combining walking tours and participatory workshops. Participants engage in discussions and activities while physically walking through a specific area or location.

Walkshops are often used in urban planning, community engagement, and design processes to gather participants' first-hand observations, insights, and feedback about the built environment, public spaces, and community needs.

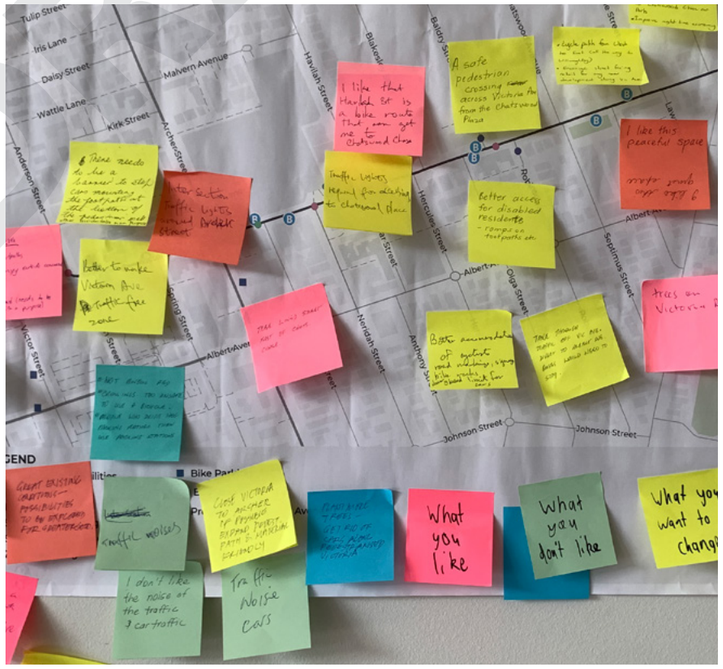

Figure 1-5: Like, dislike and wanting to change post-walkshop activity (Source: CrossleyTP, 2024)

1.5.2 Workshop 1

In the next stage of community consultation, CrossleyTP led a residents' workshop at the Dougherty Centre on 28th March 2024. This workshop aimed to inform participants about the Movement and Place approach and equip them with the skills to use the Built Environment Framework.

We presented our findings from a desktop analysis, site visits, and the walkshop to deepen participants; understanding of the existing issues and challenges for Victoria Avenue today and in the future. Then, through interactive sessions and group discussions, participants had the opportunity to express their perspectives, concerns, and aspirations for Victoria Avenue

Participants were not just passive listeners, but actively engaged in applying the built environment framework. They objectively quantified goals for each of the ten built environment outcomes, which were then compared to the existing performance scores to identify the key deficits and priority focus areas for opportunity development.

1.5.3 Workshop 2

Workshop 2, held at the Dougherty Centre on 4th April 2024, allowed Council officers, representatives from state government and other agencies to collaborate on creating a future vision statement for Victoria Avenue.

Similar to Workshop 1, we provided participants with an understanding of the existing issues and challenges identified from desktop analysis, site visits, and previous engagement events.

Additionally, we discussed the community's aspirations gathered from existing policies, strategies, and outputs from the walkshop and workshop 1 event. Using these insights as their guide, stakeholders crafted a vision statement. This was elaborated to draw out the intent and meaning behind the selection of keywords and phrases. The resultant shared vision statement is detailed in Section 2.2.1.

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1.6 REPORT STRUCTURE

- **Introduction**

This chapter outlines project context, measurement tools and the methodology of community consultation.

- **Setting the direction**

Chapter 2 reviews publicly consulted documents involving visions, objectives, and outcomes for Victoria Avenue and its surrounding community. This was conducted by reviewing visions and priorities from each document, which included aligning them with the Built Environment and Healthy Streets Framework. The vision and priorities for Victoria Avenue are also introduced, including the process of their development formed as part of workshops with community members.

- **Existing conditions**

Chapter 3 assesses the current layout, activity, and user experiences along Victoria Avenue, framed within the five themes of the Built Environment introduced in Section 1.4.1. By examining the street through these indicators, the analysis comprehensively captures both its movement and place characteristics. This evaluation enhances our comprehension of Victoria Avenue's current performance, facilitating the identification of its strengths and weaknesses.

- **Who uses Victoria Avenue?**

Chapter 4 analyses demographics and travel preferences to inform the evaluation and design of inclusive places. Insights are provided from observation data, community feedback, and statistical analyses.

- **Exploring key challenges and opportunities**

Chapter 5 reviews deficits and outlines the methodology for identifying opportunities for Victoria Avenue. These opportunities are outlined and organised around specific opportunity themes and priorities requiring action.

- **Conclusion**

The final chapter explains how the opportunities identified align with the community's aspirations and priorities, validating the proposed actions taken in alignment with the vision.

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2.Setting the direction

To establish a shared vision, we reviewed and analysed all publicly consulted documents that contain visions, objectives, and outcomes for areas influencing Victoria Avenue and the immediate community. This involved extracting vision statements, priorities, and goals from each document and aligning them with the Built Environment Framework. This process gives us a preliminary understanding of key focus areas and planning priorities for Victoria Avenue. A summary of each document is presented in the following sub-sections. This analysis also helped identify evaluation metrics that measure what matters to the community. These are documented in the grey information boxes.

2.1 PUBLICLY CONSULTED DOCUMENTS

Each document has been reviewed with the key outcomes and goals aligned to the Built Environment Framework and the Healthy Streets Metrics. This step lets us demonstrate a transparent approach to measuring the important community outcomes to identify vision-led deficits

Relevant Movement & Place Outcomes

- Transport Choice
- Convenient Facilities
- Comfortable
- Reliable Transport
- Link to Nature
- Distinct

The relevant built environment outcomes are identified for each strategy, together with a list of Healthy Street metrics that combined measure what matters to people.

Relevant Healthy Streets Metrics

- Metric 9 Space for walking
- Metric 10 Appropriate separation of people walking from traffic

Healthy Streets Metric ID Number

Healthy Streets Metric Description

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2.1.1 Greater Sydney Service and Infrastructure Plan (TfNSW, 2018)

The plan provides a guide for implementing A Metropolis of Three Cities in the North District; and highlights Chatswood as a 'Strategic Centre' linked to the Harbour CBD.

Key policy goals include expanding the 30-minute public transport travel distance to and from the strategic centres and improving accessibility to local jobs, goods and services by public transport, walking and cycling networks. At the street level, key outcomes have been identified to improve the safety of people walking using appropriate treatments such as safe crossings, refuges, traffic calming devices and lowering speed limits in high-activity areas.

Continued investment in transport infrastructure and services follows the desired outcomes for more walking, cycling and public transport trips across Greater Sydney. Key outcomes include:

- Walking or cycling is the most convenient option for short trips around centres and local areas, supported by a safe road environment and suitable pathways
- Vibrant centres supported by streets that balance the need for convenient access while enhancing the attractiveness of our places
- 30-minute access for customers to their nearest metropolitan centre and strategic centre by public transport seven days a week
- Fast and convenient interchanging, with walking times of no longer than five minutes between services
- Fully accessible transport for all customers

Relevant Movement & Place Outcomes

- Transport Choice
- Reliable Transport
- Equity
- Convenient Facilities
- Local Opportunity
- Comfortable
- Low Risk

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public. transport

2.1.2 Our Future Willoughby 2032 (Willoughby City Council, 2022)

The community strategic plan provides a 10-year planning horizon for the Willoughby Local Government Area. Engagement activities captured the population's strong sense of community, a desire to help one another with friendly, welcoming and caring people.

The community articulated several priorities, which are categorised into five broad outcomes. The priority actions that can be influenced by the design and planning of Chatswood CBD and Victoria Avenue include:

- A City that is green
- A City that is connected, inclusive and resilient
  - » Enhance transport choices and connections throughout the City.
  - » Manage parking and reduce traffic congestion.
  - » Create neighbourhoods that connect people from all types of households and families.
  - » Promote accessible services and facilities for the community.
- A City that is liveable
  - » Promote an active and healthy lifestyle
- Create desirable places to be and enjoy.
  - » Activate local spaces in creative ways.
- A City that is prosperous and vibrant
  - » Build and support a night-time economy.
  - » Facilitate the viability and vibrancy of our CBD and village centres
- A City that is effective and accountable
  - » Anticipate and respond to changing community and customer needs.

"Willoughby is a City of diversity: diverse landscapes, people and businesses. Willoughby's diversity underpins our liveable and prosperous City."

The following outcomes fall within the influence of the Victoria Avenue project:

- Improvements to transport services, connectivity and community safety
- Increased opportunities to be healthy and active
- Reduced traffic and better crossing facilities on road
- Improved access to places and activities for people with disabilities
- Increase urban canopy cover on public land
- Improved cycleways and pathways
- Development contributes to and enhances neighbourhood character.
- Improved the accessibility from households and future developments to business core and community services
- Developed creative street space for boosting the local business developments

Relevant Movement & Place Outcomes

- Transport Choice
- Reliable Transport
- Equity
- Convenient Facilities
- Local Opportunity
- Link to Nature
- Comfortable
- Low Risk

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public. transport

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2.1.3 Willoughby City Local Strategic Planning Statement (Willoughby City Council, 2021)

The Willoughby Local Strategic Planning Statement (LSPS) presents a 20-year vision, priorities, and actions for land-use planning in the Willoughby Local Government Area (LGA). This vision takes into account the economic and social needs of the Willoughby community, anticipating future changes, and strategies to protect and enhance Willoughby's natural environment.

Within the LSPS, priorities and actions are outlined, detailing the Council's approach to implementing its strategic planning direction. This includes priorities focused on enhancing the Movement and Place performance of streets like Victoria Avenue.

Willoughby City Council aims to establish well-connected centres throughout the LGA, facilitating walking, cycling, and public transport connections. These centres are envisioned as vibrant spaces meeting daily needs, preserving heritage, and fostering collaborative commercial activities.

Three priorities specifically identified for Chatswood CBD include:

Priority 3: Enhancing walking and cycling connections to Willoughby's urban areas, local centres and landscape features.

This plan recognises Victoria Avenue as an east-west river-to-harbour green corridor, highlighting its potential for active travel and connectivity to river-to-harbour corridors, local centres, and social infrastructure, thereby serving a larger proportion of the population. To encourage walking and cycling along Victoria Avenue, the following requirements are outlined:

- Provide a direct, safe, and high-quality walking and cycling link between local centres, public transport services, schools, local open space and the Green Grid, and other trip attractors.
- Encouraging and catering for increased rates of walking, cycling and use of public transport in new developments.
- Designing local streets to be low-speed, low-traffic and low-stress environments for all.
- Provide shade for people cycling and walking.

Priority 7: Developing Chatswood's role as a true transport hub for Willoughby City and the North Shore

This priority aims to enhance public transport provision by investing in infrastructure and establishing connections between Chatswood CBD, Willoughby LGA, and surrounding areas.

Actions include advocating for a B-Line rapid bus link and planning for a state-of-the-art multi-modal interchange at Chatswood, accommodating rail, bus, and bicycle facilities. Additionally, the plan emphasises maximising active transport usage to reduce car dependency and promote active travel.

Priority 9: Developing Chatswood CBD as a key commercial centre and integral part of the Eastern Economic Corridor

To retain Chatswood CBD 's importance to the metropolitan economy, various actions are being put in place to grow the hub's status as a centre for commercial activity.

These actions identify Victoria Avenue and other locations within the CBD to be improved through creation of great spaces and a high level of urban design quality. These improvements are set to upgrade the public domain through upgrades to the streetscape.

Create a 'green' walkable CBD is also an action as part of this priority, aiming to develop the centre as a sustainability exemplar contributing towards the NSW government's zero carbon target. This focuses on landscaping and increasing tree cover to reduce Chatswood's carbon footprint and promote active transport.

Relevant Movement & Place Outcomes

- Transport Choice
- Reliable Transport
- Equity
- Comfortable
- Convenient Facilities
- Local Opportunity
- Link to Nature
- Distinct

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public. transport

2.1.4 Chatswood CBD Planning and Urban Design Strategy 2036 (Willoughby City Council, 2021)

This plan provides a strong framework to guide future private and public development as the CBD grows over the next 20 years. The vision for Chatswood CBD is a compact, walkable centre, that is an easy 800m walk to the station. The CBD extends along Victoria Avenue from the train station to its intersection with Hercules Street. Key directions for this section of Victoria Avenue include:

- Reinforcing the street as the primary pedestrian spine.
- Increasing activation of the side streets extending from Victoria Avenue.
- New publicly accessible open space and through site permeability.
- High quality public domain paving.
- High levels of pedestrian amenity including seating, awnings and shelter.
- Prioritised pedestrian movement west to east.
- Enhanced space through footpath widening.
- Clear wayfinding and signage incorporating laneways connections.
- Increasing the block permeability immediately south of Victoria Avenue between Archer and Oscar Street to form a fine grid pattern.

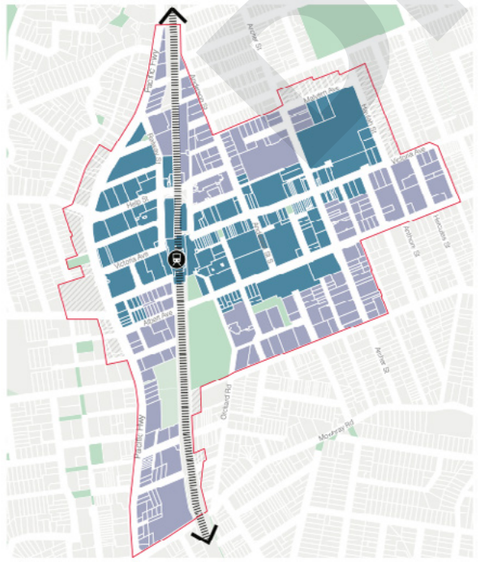

Figure 2-1: Recommended CBD Land use
(Source: Willoughby Council, 2020)

Relevant Movement & Place Outcomes

- Transport Choice
- Reliable Transport
- Equity
- Convenient Facilities
- Local Opportunity
- Link to Nature
- Comfortable
- Low Risk

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public. transport

2.1.5 Willoughby Local Centres Strategy 2036 (Willoughby City Council, 2019)

This plan delves into the functions and character of 8 specific local centres within the Willoughby LGA, considering opportunities for housing and job growth, as well as fostering healthy built environments.

One of these local centres, North Willoughby, situated at the intersection of Penshurst St and Victoria Ave, is a focal point within the project area. The following key directions and recommendations are proposed:

- Create high amenity retail connections to rear lanes.
- Improve pedestrian crossings and walkability.
- Introduce landscaping for defensible footpaths.
- Maintain and improve laneway access from Victoria Avenue.
- Provide through site pedestrian links to laneways.

"North Willoughby village is a thriving, pleasant, accessible place. It has a leafy streetscape and attractive communal open spaces. It remains a distinct local centre separate from the Chatswood CBD, with a lower scale of development compared to the major commercial and shopping buildings of the CBD."

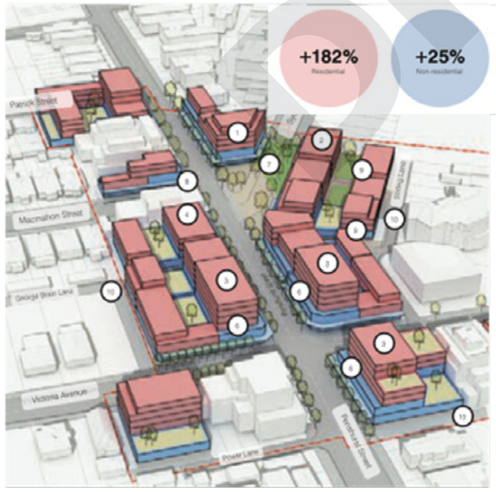

Figure 2-2: North Willoughby Plan
(Source: Willoughby Council, 2020)

Relevant Movement & Place Outcomes

- Transport Choice
- Reliable Transport
- Equity
- Convenient Facilities
- Low Risk

Relevant Healthy Streets Metrics

Metric 6: Ease of crossing mid block

Metric 7: Priority of crossing at intersections

Metric 8: Quality of the footpath

Metric 9: Space for walking

Metric 16: Quality of the footpath

2.1.6 Willoughby Integrated Transport Strategy 2036 (Willoughby City Council, 2020)

This strategy outlines the strategic direction for transport within the Willoughby LGA. It delineates how to plan, operate, and enhance the transport system for the future. Aligned with the community strategy plan, it addresses development directions, focus areas, and actionable steps. The Chatswood CBD boasts a multifaceted transport system, encompassing active transport, public transit, roads, and parking infrastructure by incorporating the Movement and Place Framework, balancing the amenity of the street with the need for traffic movement

Key outcomes for Victoria Avenue include:

- Sustainable and promotes greater levels of walking and cycling.
- Provides local and regional connectivity, and accessible to all.
- Contributes to the development of vibrant, liveable and safe places.
- Supports the local economy by efficiently managing congestion and parking demand.
- Embraces smart technology and respond to community needs.

The community particularly noted a need for:

- Increased and more efficient public transport.
- Up-to-date physical and digital connectivity.
- Greater variety and ease of parking options.
- Decreased traffic congestion.
- Improved sustainable transport choices.
- Safe and walkable neighbourhoods that promote health and well-being.

Relevant Movement & Place Outcomes

- Transport Choice
- Reliable Transport
- Equity
- Convenient Facilities
- Local Opportunity
- Comfortable
- Low Risk

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public transport

2.1.7 Willoughby Street Parking Strategy (Willoughby City Council, 2017)

The Street Parking Strategy offers an approach to managing the available parking space, including cars, trucks, bicycles and motorcycles. Its objective is to optimise the use of street space for parking while ensuring continued access to local businesses, services, and amenities. This plan highlighted the key issues of community parking, including commuter parking, school drop off and pick up, population growing pressure, and increasing the need for car share spaces.

- Key directions guide the planning and design of the project scope for Victoria Avenue which include:
- Above 85 per cent occupancy, there is a need to increase restrictions to increase parking turnover.
- Parking controls should support the viable operation of the adjacent land-use activity and user needs.
- Promote car share.
- Increase the number of trips made by non-car modes such as walking, bicycling and public transport.

	UNRESTIRCTED OR TIME-LIMITED PARKING AREAS	EXISTING PAY-PARKING AREAS
>90% SPACES OCCUPIED	Introduce shorter time limits (eg: from 2P to 1P) or parking fees	Increase parking fee by 20%
>85% SPACES OCCUPIED	Introduce shorter time limits or permit parking	Increase parking fee by 10%
45% - 85% SPACES OCCUPIED	Periodic monitoring	Periodic monitoring
<45% SPACES OCCUPIED	Increase time period for parking (eg: from 2P to 4P)	Reduce parking fee by 10%
<20% SPACES OCCUPIED	Remove all parking restrictions	Reduce parking fee by 20% or consider removing charges.

Figure 2-3: Proposed Street parking framework (Source: Willoughby Council, 2020)

Relevant Movement & Place Outcomes

- Transport Choice
- Equity
- Convenient Facilities
- Local Opportunity

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public. transport

2.1.8 (Draft) Willoughby Cycling Strategy and Action Plan (2024-2034)

The strategy and action plan provides a long-term vision and priorities for cycling in Willoughby. It outlines four key priorities and their objectives, including:

- **Safe cycling:** Ensure safe cycling network to transport hubs, economic hubs, and local hubs by providing safer routes to high demand areas.
- **Connected and continuous cycling:** Ensure connectivity to local high demand areas and increase bicycle infrastructure in Willoughby City Council by 10% by 2034.
- **Integrated cycling:** Provide infrastructure to ensure an integrated journey for all road users by integrating the different modes of transport.
- **Promote cycling:** Increase the number of people cycling in Willoughby City Council by 3% by 2034 by promoting behaviour change to encourage cycling as the mode of choice for short trips.

The project area of Victoria Avenue has been identified as a potential future bicycle route, aiming to achieve all the above objectives.

Relevant Movement & Place Outcomes

- Transport Choice
- Equity
- Convenient Facilities
- Human Scale
- Comfortable
- Low Risk

Relevant Healthy Streets Metrics

Metric 4 Conflict between cycles and turning vehicles

Metric 7: Priority of crossing at intersections

Metric 10: Appropriate separation of people walking from traffic

Metric 11: Space for cycling

Metric 13: Availability of drinking water

Metric 15: Cycle parking

Metric 18: Reducing through traffic

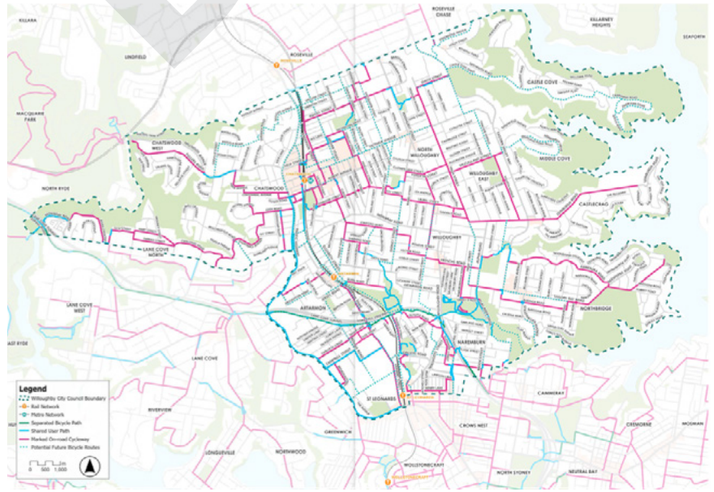

Figure 2-4: Willoughby Bicycle Network Plan (Source: Willoughby Council, 2024)

2.1.9 Public Spaces and Recreation Strategy (Willoughby City Council, 2024)

TThe Willoughby Public Spaces and Recreation Strategy outlines a comprehensive plan for the next decade, directing the planning, delivery, and management of public spaces and recreation networks in Willoughby LGA. It focuses on innovative approaches to address challenges such as limited land availability and shifting recreational preferences, aiming to enhance community well-being and engagement. Through active community involvement and placemaking principles, the strategy seeks to create vibrant, accessible, and inclusive public spaces for all residents.

- Key priorities relevant to the Victoria Avenue project area include:
- Create and promote a network of public spaces via activated recreational links.
- Leverage future development and underutilised assets to deliver new public spaces.
- Activate existing public spaces for increased recreational participation.
- Promote collaborative and coordinated planning and delivery.

The following key ideas were shared by the community to improve the public space network:

- Enhance access by extending recreational links and transforming local streets into social spaces.
- Upgrade existing public spaces with more amenities and vibrant activations.
- Reimagine underutilised areas to cater to community needs and represent diverse cultures.
- Promote inclusive and accessible developments, prioritising greenery and natural areas.
- Promote inclusive recreational amenities catering to a wide range of interests and demographics.
- Strengthen regional collaboration, community co-management, and communication for optimised public space utilisation.

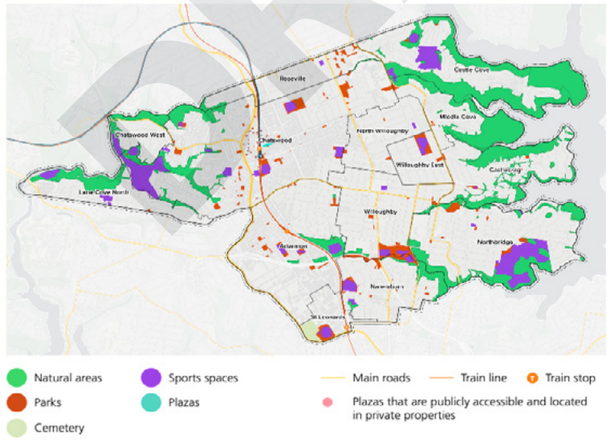

Figure 2-5: Public spaces within Willoughby City excluding streets (Source: Cred Consulting within the Public Spaces and Recreation Strategy, 2024)

Relevant Movement & Place Outcomes

- Equity
- Convenient Facilities
- Comfortable
- Link to Nature
- Local Opportunity
- Low Risk

Relevant Healthy Streets Metrics

All metrics contributing to people choosing to walk, cycle or use public. transport

2.2 A VISION FOR VICTORIA AVENUE

TDuring a stakeholder workshop held on April 4th, 2024, a shared vision was collaboratively developed. The participants included representatives from Willoughby City Council, NSW Police, Transport for NSW, and North Sydney Local Health District.

To create the vision statement, participants were provided with information about the current and future conditions along Victoria Avenue, as well as feedback from the walkshop. Additionally, they received a matrix summarising vision statements, objectives, and outcomes from relevant strategies, plans, and policies in the study area.

The workshop was divided into three groups, each tasked with developing a vision using the provided resources and information about Victoria Avenue.

Each table had a facilitator who would challenge, prompt and question the selection of words and phrases to understand the intent and meaning of the descriptions.

After crafting their vision statements, each group's statement was shared and refined through comments from the other tables. The preferred vision statement was selected by a blind vote to prevent any unconscious bias in voting, The preferred vision is illustrated in Figure 2-6 and, the meaning and intent behind the key words are detailed in Figure 2-7 overleaf.

"Victoria Avenue will have green, inviting and lively places that reduce traffic and encourage active use of public spaces during the day and into the evening."

Figure 2-6: The Preferred Vision Statement

2.2.1 Shared vision components

The components of the shared vision show the workshop participants' preferred characteristics of a future Victoria Avenue. These characteristics encompass various aspects of movement such as reduced traffic and active use of public spaces, in addition to aspects of place such as green, inviting and lively places that are used during the day and into the evening.

These components, detailed below and connected to the vision statement by each underlining colour, inform the opportunities selection in Section 5.

"Victoria Avenue will have green, inviting and lively places that reduce traffic and encourage active use of public spaces during the day and into the evening."



Green places

Tree canopy and vegetation enhance the natural feel of Victoria Avenue. This will promote biodiversity, improve air quality and reduce urban heat



Reduced traffic

By reducing vehicular traffic in favour of walking, cycling and public transport, noise pollution will be minimised, creating a people-friendly environment



Inviting places

Inviting places bring in passers-by with amenities such as comfortable seating, shade and engaging art installations. These features create environments where people feel comfortable gathering and socialising



Active use of public spaces

High-quality walking and cycling facilities will assist people moving along Victoria Avenue. This will support movement within the area, enhancing access to residences and commercial areas.



Lively places

Lively places are created by areas of high walking activity. These support a dynamic atmosphere on Victoria Avenue, as people gravitate to social hubs.



During the day and into the evening

Public spaces will offer a diverse array of experiences to cater for different times of day. Lighting and active frontages can effectively draw in people to these areas, supported by improved extended public transport options.

Figure 2-7: Shared vision separated into components

2.3 PRIORITY OUTCOMES

The priority outcomes were quantified by a small group engagement of residents using the Built Environment Indicator Framework during a stakeholder workshop held on 28th March 2024.

Victoria Avenue is characterised by two distinct sections. The first, a vibrant high street environment (west), stretches from Anderson Street to Hercules Street. The second, a more serene and residential area (east), extends from Hercules Street to Penshurst Street. Subsequently, priorities were set for each separately.

Each Built Environment Outcome was thoroughly evaluated and given a score from zero to three for both sections. A score of three signifies utmost importance and prioritisation, while zero indicates irrelevance to Victoria Avenue's function.

1	2	3	4
Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
All indicators are irrelevant	Most indicators are irrelevant	Most indicators are relevant	All indicators are relevant

For the high street section, key priorities include expanding transport options to be inclusive and accessible, addressing the lack of greenery, and ensuring a safe and comfortable environment. This area was considered by workshop participants to be limited in terms of walking and cycling facilities. The lack of tree canopy was also mentioned, especially relative to the residential areas. This was discussed as being an important part of making Victoria Avenue more comfortable to walk and cycle.

In the eastern residential section, priorities focus on enhancing comfort, accessibility of transport options, and supporting local opportunities. With a lack of safe crossings and no separated cycling facilities, the difficulty of mobility impaired people to move through Victoria Avenue was highlighted. The supply of comfortable facilities such as public seating was discussed as a major requirement of this.

Table 2-1: The vision BEI scores of Victoria Avenue (Source: CrossleyTP, 2024)

Theme	Outcome	Workshop Scores	
		West	East
Access and Connection	Transport Choice	3.0	2.0
	Reliable Transport	2.5	2.5
	Equity	3.0	3.0
Amenity and Use	Convenient Facilities	2	2.0
	Local Opportunities	2.7	2.7
Green and Blue	Link to Nature	3.0	2.0
Comfort and Safety	Low Risk	3.0	2.0
	Comfortable	3.0	3.0
Character and Form	Human Scale	1.7	1.7
	Distinct	2.5	2.2
Total (/30)		**26.5**	**23.1**

Highest scoring outcomes

3.Existing conditions

3.1 INTRODUCTION

This section delves into the current layout, activity, and user experiences along Victoria Avenue, framed within the context of the built environment themes:

Access and Connection:

This section details the availability, reliability, and accessibility of transport options within, to, from, and through Victoria Avenue.

Amenity and Use:

Here, we describe the existing land uses, points of interest, community facilities, and end-of-trip amenities such as parking, bus stop conditions, bike racks, and benches.

Green and Blue:

Focused on the connection to nature, this part covers green infrastructure like street trees, low-level planting, water features, and wildlife diversity.

Comfort and Safety:

We analyse the current comfort levels for pedestrians and cyclists, along with an examination of the street's crash record.

Character and Form:

This section explores the identity expressed by buildings and street features, including maps showcasing heritage and cultural elements.

The summation of our desktop analysis and site investigations across these themes will be the current performance levels for Victoria Avenue.



Figure 3-1: Footpath on the southern side of Victoria Avenue (Source: CrossleyTP, 2024)

3.2 ACCESS AND CONNECTION

This section delves into key indicators that actively gauge user outcomes concerning mode choice, transport reliability, and equity. These outcomes depict the level of connectivity within a place and the fairness of its transport infrastructure.

Access encompasses the capacity to readily reach desired goods, services, activities, and destinations within Victoria Avenue, including trip destinations accessible from the street by a variety of available travel options.

To explore access to the opportunities available within Victoria Avenue, and from Victoria Avenue, we present the following analyses and discussions:

The availability of transport options

The service frequency and reliability for buses operating on Victoria Avenue

A focus on equitability at bus stops, noting this is further discussed within the comfort theme for people walking and cycling



Figure 3-2: Bicycle racks on Victoria Avenue (Source: CrossleyTP, 2024)

3.2.1 Road network classification

The NSW Movement and Place Framework classifies roads based on their context, functions and activities to assist applying appropriate changes.

By evaluating each street's level of movement and place attributes, the following types have been identified for Victoria Avenue and the surrounding network:

- Connector avenue: a street with moderate place intensity and movement function that connects neighbourhoods, urban centres, or enterprise areas.
- Arterial high street: a lively street that supports high level of place and multi-modal movement.
- Connector street: a local street that connects neighbourhoods, linking residential areas with local destinations.
- Neighbourhood street: a quiet residential street for people to spend time in.
- Residential lane: A quiet, narrow street aligned to the rear of residential properties for service access.
- Mall: a vibrant street at the heart of a community's social and cultural life, made possible by restricting access to motor vehicles.
- Service lane: a narrow street aligned to the rear of mixed-use properties to provide service access.



Figure 3-3: Movement and Place Road Classification on Victoria Avenue and the surrounding network (Source: CrossleyTP, 2024)

The NSW Design of Roads and Streets Guideline sets several design parameters for each road type. This acts as a practical 'how to' manual, supporting other design resources in line with the principles set out in the NSW Movement and Place Framework. The guide recognises that roads and streets differ in many ways but provides design advice based on examples of road and street design solutions.

These examples are set by evaluating the movement and place characteristics. For Victoria Avenue, the moderate-high movement and place functions in the CBD core set this area as an Arterial high street. For the residential areas further east, this type with moderate movement and place is a **Connector Avenue**, shown in Figure 3-4. The recommended design parameters for these two types are shown in Table 3-1

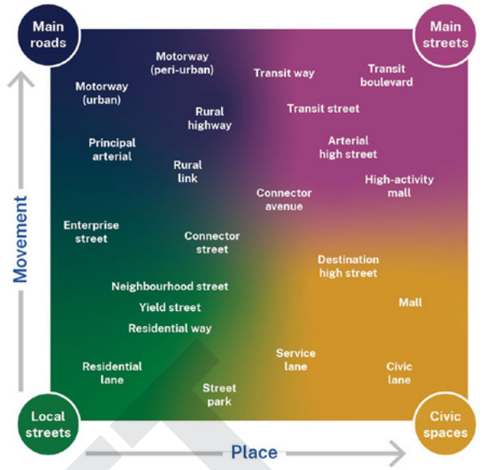

Figure 3-4: Road and street types
(Source: Design of road and streets by TfNSW, 2023)

Table 3-1: Design parameters for Arterial high street and Connector Avenue types (Source: Design of road and streets by TfNSW, 2023)

	Main street	
Design parameters	**Arterial high street**	**Connector Avenue**
General		
Place contexts	Urban Centre, Urban and Suburban	Urban Centre, Urban and Suburban
Land uses	Mixed Uses	Mixed Uses
Built form frontages	Active retail frontages	Active retail frontages or other frontages set back
Access to properties	Direct pedestrian access to frontages with vehicle access to rear of properties	Direct
Posted and design speed (km/h)	40-50	40-60
Active transport		
Level of active transport separation from motor vehicles	Separated	Separated
Environment		
Tree canopy cover target	Apply local council tree canopy targets	Apply local council tree canopy targets
Intersections		
Intersection type	At grade	At grade
Kerb extensions at intersections and crossings	Required	Required
Continuous footpaths/threshold paint on low volume side streets	Required	Required
Vehicles		
Buses	Yes	Yes
Can check vehicle swept path cross the centreline at intersections?	No	No
Parallel car parking lane	Use with caution	Permitted
Sight distance (m)	45	-

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Figure 3-5: Existing footpaths on Victoria Avenue (Source: Crossley TP, 2024)

3.2.2 Existing footpath network

Footpaths are provided throughout Victoria Avenue and range from wide spaces accommodating outdoor dining, public seating, bicycle racks and high volumes of people in the western section; to narrower footpaths separated by grass verges to the east.

3.2.3 Existing cycling network

Bicycle facilities along Victoria Road currently provide routes in a north-south direction, linking with Havilah Street, Hercules Street, Anderson Street and Spring Street. There is currently no cycling facility along the length of Victoria Avenue, which makes trips to and from North Willoughby and the Chatswood CBD challenging.

Cycling facilities on Victoria Avenue are limited to a section of mixed-traffic conditions between Havilah and Hercules Street. This environment offers no protection or priority provided for people riding.

Bicycle parking facilities are skewed towards the western end of Victoria Road, with the greatest concentration of facilities located in the vicinity of Chatswood Mall and Chatswood Station. These destinations have the highest demand for walking and cycling and require the greatest connectivity. Although there are ample parking facilities in this area, site observations show that they were rarely utilised.

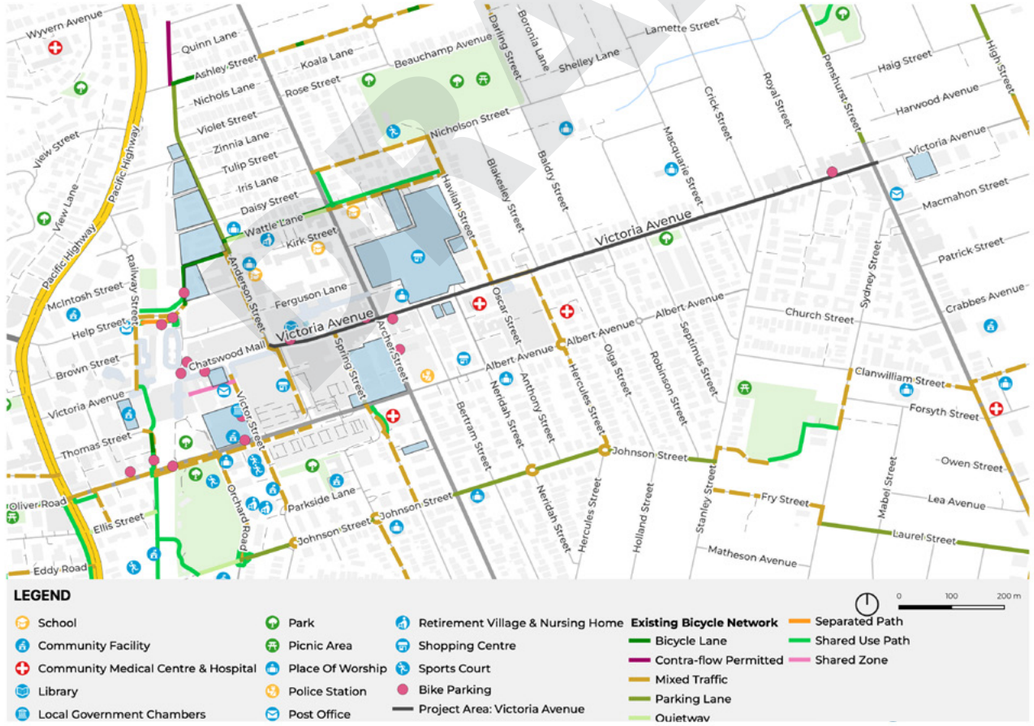

Figure 3-6: Existing bicycle network (Source: CrossleyTP, 2024)

3.2.4 Existing public transport network

The following buses travel along Victoria Avenue, connecting to Chatswood Station:

- 115 - Chatswood to City Bridge St via North Sydney
- 120 - Chatswood to City QVB (Loop Service)
- 137 - Chatswood to Bantry Bay
- 267 - Chatswood to Crow's Nest
- 275 - Castlecrag to Chatswood
- 281 - Chatswood to Davidson (Loop Service)
- 282 - Chatswood to Davidson & Belrose (Loop Service)
- 283 - Chatswood to Belrose (Loop Service)

Bus stops are distributed along the whole of Victoria Avenue from Penshurst Street to Anderson Street, connecting to the Chatswood bus interchange adjacent to Chatswood Station.

This interchange connects buses to T1 trains from Berowra to Richmond/Emu Plains, T9 trains from Gordon to Hornsby via the City, and Metro services to Tallawong, linking to the City by mid-2024.

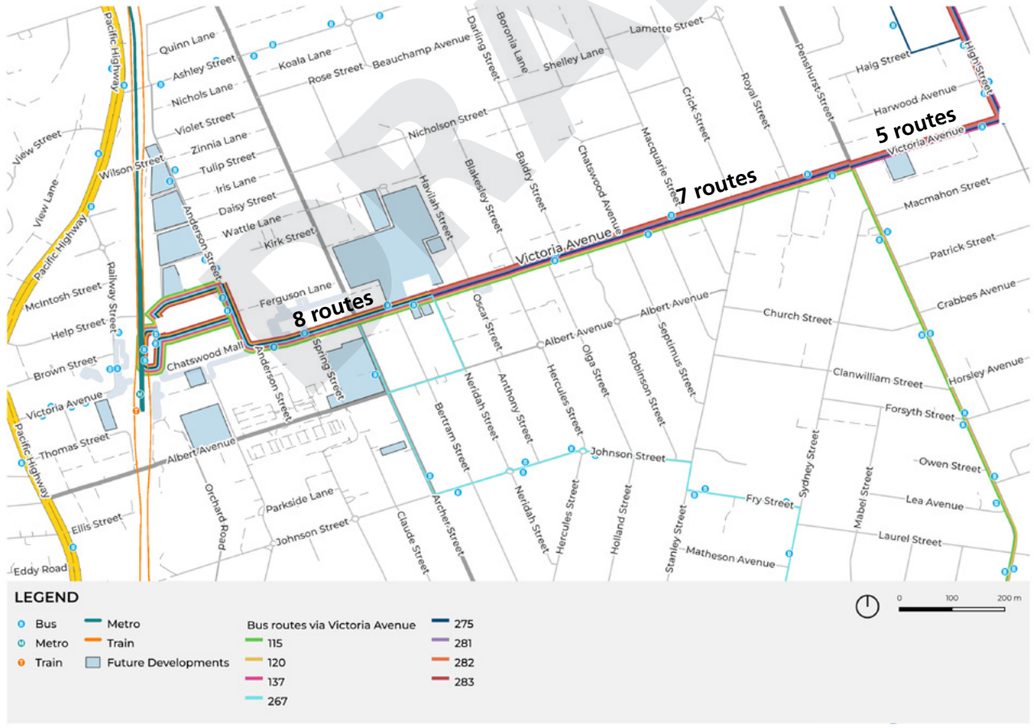

Figure 3-7: Public transport routes and stop locations (Source: CrossleyTP, 2024)

Frequencies of bus services vary depending on each bus route, with some buses at high frequency throughout the day.

Buses routes connecting Chatswood CBD to the Sydney CBD such as the 115 and 120 are the best served, with a typical frequency of six per hour during the busiest hours of weekdays and continuing until about midnight. These routes are likely to have the best patronage due to the high trip attraction of these two centres.

Buses linking to suburban areas are less served, with frequencies at or below three per hour. Buses to Crows Nest and Castlecrag do not run late, while the loop services to Davidson and Belrose commonly continue past midnight.

The worst served bus is route 137 which leaves once in the morning from Chatswood and returns once in the afternoon on weekdays only.

With future developments within the Chatswood CBD, bus usage will exist from the surrounding areas, increasing the need for greater bus service along Victoria Avenue.

Table 3-2: Public transport frequencies (Source: CrossleyTP, 2024)

Service	Weekdays			Weekends		
	Typical Busy-Period Frequency	Typical Quiet-Period Frequency	Last departure from Chatswood	Typical Busy-Period Frequency	Typical Quiet-Period Frequency	Last departure from Chatswood
115 - Chatswood to City Bridge St via North Sydney	6 per hour	3 per hour	11:46 PM	3 per hour	3 per hour	11:46 PM
120 - Chatswood to City QVB (Loop Service)	6 per hour	6 per hour	12:26 AM	6 per hour	6 per hour	12:26 AM
137 – Chatswood to Bantry Bay	1 per peak period	-	7:20 AM	-	-	-
267 - Chatswood to Crows Nest	2 per hour	1 per hour	7:40 PM	1 per hour	1 per hour	6:47 PM
275 - Chatswood to Castlecrag	1 per hour	1 per 2 hours	2:45 PM	1 per 2 hours	1 per 2 hours	5:45 PM
281 - Chatswood to Davidson (Loop Service)	3 per hour	1 per hour	11:00 PM	1 per hour	1 per hour	1:55 AM
282 - Chatswood to Davidson & Belrose (Loop Service)	2 per hour	-	11:53 PM	-	1 per hour	2:55 AM
283 - Chatswood to Belrose (Loop Service)	2 per hour	1 per hour	12:08 AM	1 per hour	1 per hour	2:15 AM

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3.2.5 School buses

Victoria Avenue serves a high movement function for school travel, with a total of 15 routes along Victoria Avenue.

The 698w and 767w bus routes depart Chatswood Station in the PM period, serving the following schools in the vicinity of Victoria Avenue:

- St Pius X College (finish time: 3:10 PM)
- Our Lady of Dolours Catholic Primary School (finish time: 3:00 PM)
- Mercy Catholic Primary School (finish time: 2:25 PM)

Table 3-3: School Bus frequencies (Source: CrossleyTP, 2024)

Service	Morning Service	Afternoon Service
698w	-	3:47 PM
767w	-	3:30 PM

Other school buses using Victoria Avenue connect schools from outside Chatswood to Chatswood Station.

Future developments of Victoria Avenue must consider changes to school services as part of any future changes to bus routes.

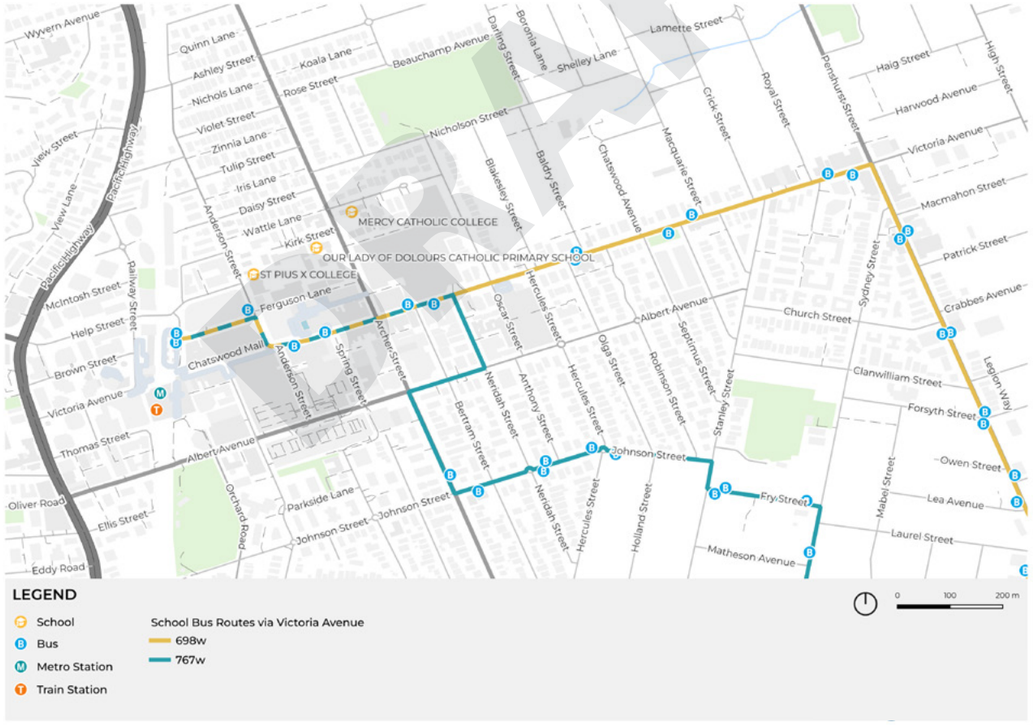

Figure 3-8: School bus routes (Source: CrossleyTP, 2024)

3.2.6 Bus stop accessibility and DDA compliance

The assessment of the bus stops along Victoria Avenue highlight only four bus stops achieve Disability Discrimination Act (DDA) compliance, which creates an inequitable situation for people with disabilities. The other six bus stops lack any TGSIs and are therefore non-compliant.

This discourages those with disabilities, mobility impairments and the elderly to use public transport for local trips to the city centre. The lack of infrastructure available to this group of customers could encourage more private vehicles trips via taxis or rideshares, further increasing congestion.

Technical note:

DDA compliance ensures that a broad range of users can have equitable access to public transport. Non-compliance limits the range of people who can make use of sustainable public transport and is not conducive to people of all ages and abilities using the transport network.

Legislative standards require that public transport stops should have, among others

- Boarding Point
- Access Path
- Tactile Ground Surface Indicators (TGSI)
- Bus Stop Sign



Figure 3-9: DDA compliance of bus stops along Victoria Avenue (Source: CrossleyTP, 2024)

Table 3-4: DDA Compliance of bus stops along Victoria Avenue (Source: CrossleyTP, 2024)

Stop ID	Stop Name	Bus Stop Sign Compliance (DDA)	Board Point Compliance (DDA)	Access Path Compliance (DDA)	TGSI Compliance (DDA)	Nearby Crossing Point Available (Non-DDA)	DDA Compliance
206788	Westfield Chatswood at Victoria Avenue	Yes	Yes	Yes	No	Yes	✘
206726	Victoria Avenue Opp. Chatswood Chase Sydney	Yes	Yes	Yes	No	Yes	✘
206725	Victoria Avenue at Olga Street	Yes	Yes	Yes	No	Yes	✘
206724	Mashman Park at Victoria Avenue	Yes	Yes	Yes	Yes	No	✓
206723	Victoria Avenue after Penshurst Street	Yes	Yes	Yes	Yes	Yes	✓
206730	The Concourse at Victoria Avenue	Yes	Yes	Yes	Yes	Yes	✓
206731	Chatswood Chase at Victoria Avenue	Yes	Yes	Yes	No	Yes	✘
206732	Victoria Avenue at Baldry Street	Yes	Yes	Yes	No	Yes	✘
206733	Victoria Avenue at Macquarie Street	Yes	Yes	Yes	No	No	✘
206734	Victoria Avenue at Royal Street	Yes	Yes	Yes	Yes	Yes	✓











Figure 3-10: Buses and bus stops on Victoria Avenue (Source: Crossley TP, 2024)

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3.2.7 Healthy Streets Assessments

To evaluate inclusion levels, the Australian Healthy Streets Check for Designers Tool was used. This provides an objective measure of how welcoming the street environment is for people of all ages and abilities. The Healthy Streets Framework adopts a human-centric approach to evaluating street layout and activity, guiding road space allocation and street design to create public spaces that are comfortable, safe, and inviting for people walking, cycling and taking public transport.

This tool uses objective measurements to assess the place and activity of a street, which can indicate how comfortable, safe, and inviting it is for people to walk, cycle, or access local amenities, opportunities, and services. The audit involves measuring 19 performance metrics across 10 indicators, giving a score out of 100 for each indicator.

This tool and outcomes serve to evaluate Victoria Avenue, identifying deficiencies and providing a comprehensive street design guide for enhancing its quality. The following pages contain:

- Summary of current Victoria Avenue performance for both western and eastern sides.
- Maps pinpointing key issue locations

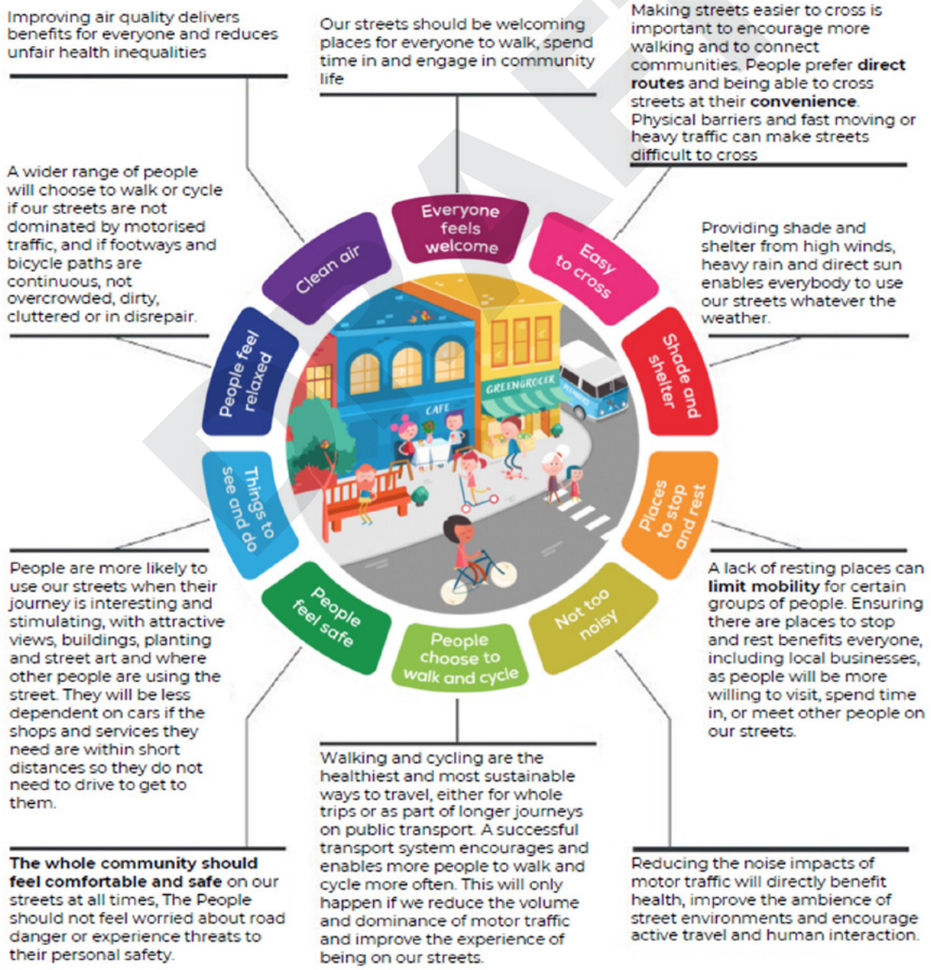


Figure 3-11: The 10 Healthy Streets Indicators and their evaluations (Source: Lucy Saunders, 2024)

Victoria Avenue Healthy Streets performance summary

The western section of Victoria Avenue, stretching from Anderson Street to Hercules Street, received an overall score of 16 out of 100. Among the lowest-scoring factors is the availability of places to stop and rest, with limited areas provided. Currently, the only seating is found at bus stops, posing challenges for people walking in need of periodic breaks or socialisation opportunities. Furthermore, inadequate shade and shelter exacerbate this issue, as there are few street trees or awnings in the CBD core to provide protection from the elements.

Additionally, this section presents challenges for pedestrians due to high volumes of through traffic and fast-moving vehicles, impacting both air quality and noise levels along walking spaces. At signalised intersections, pedestrians experience long waiting times exceeding 60 seconds before receiving the green signal. This low level of service further impedes pedestrian movement. Moreover, major crossing points lack walking priority, such as the intersection at Victoria Avenue and Bertram St, where vehicles are given precedence over pedestrians, making it challenging to find safe opportunities to cross the road.

Despite the presence of seating at bus stops, there is a notable absence of weather protection, leaving individuals vulnerable to the elements during sunny or rainy days.

In the eastern section of Victoria Avenue (from Hercules Street to Penshurst Street), an overall score of 13 out of 100 was recorded. Among the lowest-scoring indicators are the lack of places to stop and rest, scoring zero, and concerns regarding noise levels. Limited seating at some bus stops, or their absence altogether, means residents and visitors were observed to improvise, resorting to uncomfortable low walls in front of residential buildings. The high volume and speed of vehicles contribute to the noisy environment and make crossing the street challenging.

Pedestrian crossing facilities are restricted to single signalised points at Stanley Street, Baldry Street, and Penshurst Street. This limited infrastructure and high traffic volumes and speeds complicate crossing between Mashman Park and Service NSW. Wide side streets do not offer any priority pedestrian crossing facilities, necessitating people walking to constantly monitor oncoming vehicles, increasing crossing distances and potential conflicts. Generous turning radii enable vehicles to turn swiftly, posing safety risks to pedestrians and cyclists.

Furthermore, narrow footpaths, particularly near health services close to Baldry Street, fail to accommodate individuals using mobility aids, wheelchairs, or those accompanied by caregivers. These inadequacies hinder access to essential facilities and compromise pedestrian comfort and safety.



FFigure 3-12: Healthy Streets scores for Victoria Avenue West out of 100 points. (Source: Crossley TP, 2024)



Figure 3-13: Healthy Streets scores for Victoria Avenue East out of 100 points. (Source: Crossley TP, 2024)

Note: The absence of a dedicated cycling facility along the entirety of Victoria Avenue mean cyclists share the road with general traffic, exposing them to speeds ranging from 40 to 50 kilometres per hour. Therefore, it has impact on the indicates of *Everyone feels welcome, people choose e to walk and cycle, people feel safe, and people feel confutable .*

Healthy Streets Assessment - Victoria Avenue Western Section (From Anderson Street to Hercules street)







Long waiting times at signalised intersections indicates a prioritisation of vehicular traffic over walking movement. It can result in frustration for people who walking and cycling.



Low walking priority for a major crossing point with high traffic volumes resulting in people having to wait for a long time to find an appropriate gap in traffic.



There are limited places to stop and rest. This scarcity of resting areas poses challenges for people and commuters who may require periodic breaks during their journeys.



People cycling share the travel lane with cars, trucks and buses. They are also positioned between these passing vehicles and parked cars. This leaves insufficient space to move out of the way of an opening door.



Lack of street trees or awnings means the footpaths and areas where people ride are exposed to the weather, making for uncomfortable conditions on hot summer or rainy days.

Healthy Streets Assessment - Victoria Avenue Eastern Section (From Anderson Street to Hercules street)







Wide side streets enable vehicles to 'sweep' at speed as they turn into the street. This makes it more difficult and less comfortable for people to walk. There are also many unmet desire lines where people want to cross over to access amenities.



Uneven Pavement leads to vertical level differences which poses as a tripping hazard for people walking.



The bus shelter greatly reduces the space for the footpath to be less than 1 meter behind, which means hard to walking with in group and with wheelchair.



The bus stop close to Mashman Park does not provide seating for people to wait.



There is a lack of bike parking facilities, and the bike rack near Penshurst Street is currently out of order.

3.3 AMENITY AND USE

This section delves into the Amenity and Use theme within the specific context of Victoria Avenue. Our focus here is on ensuring that the mix of local opportunities and convenient facilities along Victoria Avenue creates a pleasant and easily accessible environment for both residents and visitors. Our analysis has examined how the design, planning, and management of roads and streets on Victoria Avenue impact nearby public spaces and land use, highlighting the importance of creating places that meet people's needs and offer a variety of activities and services within walking distance.

We've also looked into the concept of a 15-minute neighborhood, which assesses whether essential facilities for daily needs can be reached comfortably on foot or by bike from home. In summary, we'll cover:

- Land use zones and permitted land use activity
- The location, variety, and density of local facilities, amenities, and employment available on Victoria Avenue.
- Amenities and services accessible within a 15-minute walk or bike ride from Victoria Avenue.
- Accessibility to these amenities via a 30-minute bus journey from Victoria Avenue.
- Facilities such as street parking, bike racks, and public seating that facilitate access to opportunities on Victoria Avenue.



Figure 3-16: Westfield shopping centre (Source: CrossleyTP, 2024)

3.3.1 Land use zoning

Victoria Avenue is part of the Chatswood CBD Core and is bordered by E2 commercial land uses and MU1 Mixed-use land uses from Anderson Street to Havilah Street.

Moving eastward from Havilah Street, Victoria Avenue transitions to medium-density residential land uses, interspersed with pockets of retail activity denoted by zone E1.

As per the Willoughby Local Centre Strategic Plan, the easternmost end of Victoria Avenue is recognised as the North Willoughby Local Centre, designated as zone E1, centred around its intersection with Penshurst Street.

In terms of land zoning, the defined public space is primarily limited to Mashman Park in the eastern section, defined by zone RE1. However, this land zoning system does not recognise other public spaces such as libraries, museums, galleries, community centres, and squares. Examples of these within the Chatswood area include Victoria Avenue Mall, the Concourse outdoor spaces, and Chatswood Place Plaza. These areas align with the broader concept of public open spaces as outlined in the NSW Public Space Charter (2021).

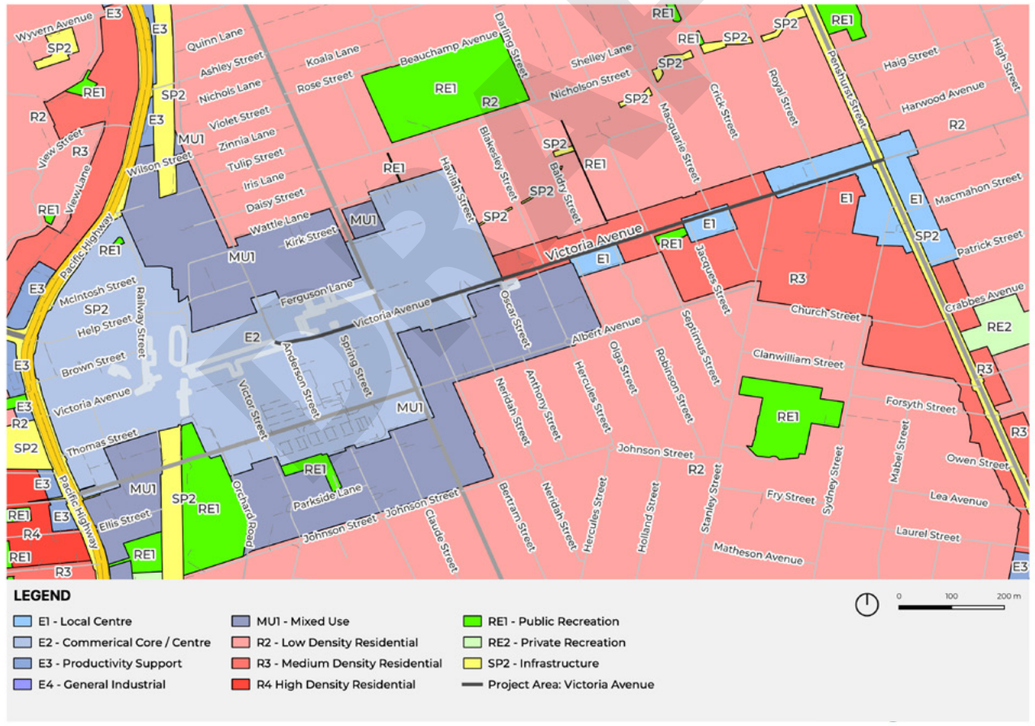


Figure 3-17: Land use zoning (Source: CrossleyTP, 2022. Land use sourced from DPIE's Environmental Planning Instrument - Land Zoning)

3.3.2 Place function

Chatswood serves as an important employment and recreational centre bridging Harbour City to Macquarie Park. At the heart of Chatswood's central business district (CBD) lies Victoria Avenue, the main street facilitating direct access from the Train and Metro station to a mix of community amenities essential for daily life.

Within a short walking distance from the street people can access schools and recreational spaces in addition to shopping centres, restaurants, medical services and public services provided on the street.

In contrast, people living to the east of Victoria Avenue at North Willoughby Local Centre along Penshurst Street; there are a limited number of communities facilities or services. Access to amenities provided in the CBD are just outside a comfortable walking distance.



Figure 3-3: Movement and Place Road Classification on Victoria Avenue and the surrounding network (Source: CrossleyTP, 2024)

3.3.3 Walking catchments & Existing walking network

The North Willoughby Local Centre at Penshurst Street and Chatswood CBD are the two main walking destinations for residents along Victoria Avenue and the surrounding area.

The North Willoughby Local Centre includes several retail attractions; however, points of interest are concentrated on the western side of Victoria Avenue, within the Chatswood CBD. This includes notable locations such as Council offices and shopping precincts such as Westfield and Chatswood Chase.

The 400m and 800m walking catchments for Westfields and the North Willoughby Local Centre encompass large areas of North Willoughby, Chatswood and Roseville These catchments illustrate the areas typically reachable by walking. It is expected that outside of these distances, there is a greatly reduced likelihood of people walking to access these destinations.

These distances are well served by existing footpaths, with roads in the area typically having footpaths on both sides.

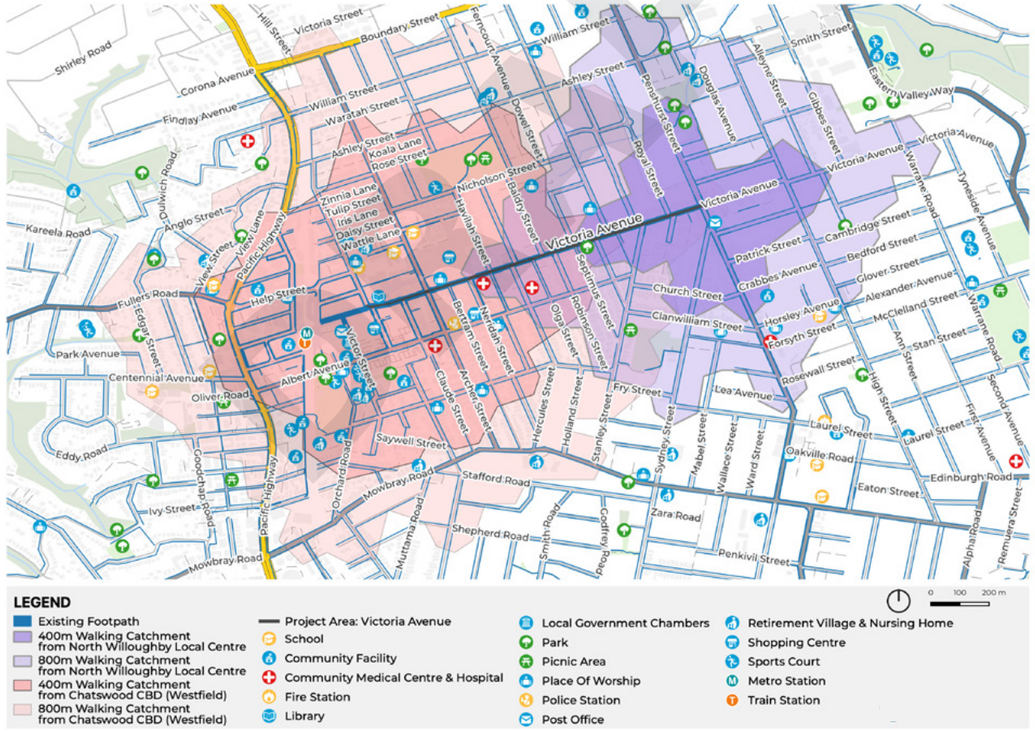


Figure 3-19: Victoria Avenue walking distances from Chatswood Westfield and North Willoughby Local Centre (Source: Crossley TP, 2024)

3.3.4 Cycling catchments

The two and a half-kilometre and five-kilometre cycling catchments for the Chatswood CBD illustrate the areas typically reachable by cycling, indicating the potential for people to ride to other suburbs. It is expected that outside of these distances, there is a greatly reduced likelihood of people cycling to access the Chatswood CBD

Note that these distances only represent potential connectivity, and that people's willingness to ride within this 5km distance is dependent on the stress levels of the cycling facilities that are provided.

The assessment indicates that:

- Within a 2.5km distance:
  - » Suburbs of Roseville, Willoughby and Artarmon are accessible.
- Within a 5km distance:
  - » Suburbs of Lane Cove Castle Cove, St Leonards, Lindfield, Chatswood West, Northbridge and Killara are accessible.



Figure 3-3: Movement and Place Road Classification on Victoria Avenue and the surrounding network (Source: CrossleyTP, 2024)

3.3.5 Public transport catchment

The 15- and 30-minute public transport catchments from the Chatswood CBD most notably follow the T1 North Shore & Western, T9 Northern and M1 Metro North West & Bankstown train lines, in addition to several bus routes. This results in the public transport catchments having an orientation from the Sydney CBD to the Upper North Shore and Ryde LGA.

These catchments display areas accessible by public transport within a timeframe. Areas outside this timeframe are expected to have great car reliance, adding pressure on road capacity and parking in areas like Chatswood CBD.

Relative to the cycling travel distances shown in Figure 3-21, public transport reaches further from the Willoughby LGA however does not effectively connect to the eastern areas adjacent to Middle Harbour.

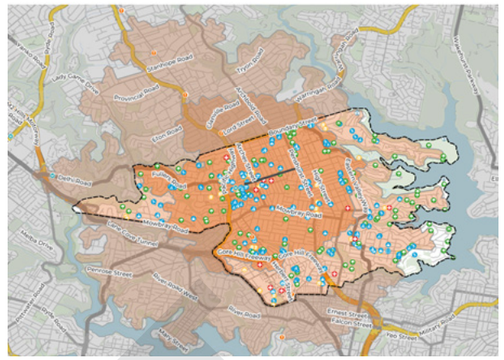


Figure 3-21: Cycling Travel Distances from the Chatswood CBD (Source: CrossleyTP, 2024)

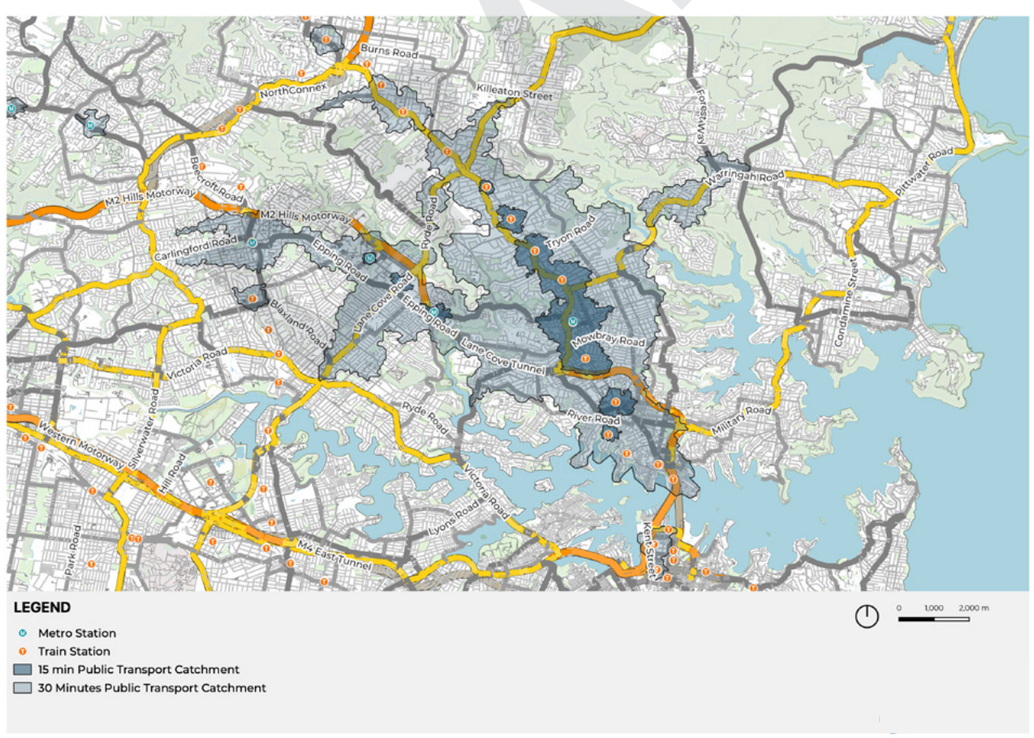


Figure 3-22: Public Transport Travel Distances from the Chatswood CBD (Source: Crossley TP, 2024)

3.3.6 Car parking

Willoughby Street Parking Strategy 2017 underscored the necessity for street parking to align with land use activities, businesses, and services. It introduced an approach to effectively manage and regulate parking spaces based on occupancy.

On-street parking arrangements vary from the western side to the eastern side. The western side offers one-hour short-stay parallel ticket parking, while the eastern side provides unrestricted parallel parking. Both sides of the street witness high utilisation of parking spaces. However, the on-street parking on the eastern side does not adhere to the framework outlined in the Willoughby Street Parking Strategy.

One disabled parking spot is available at Service NSW. This poses challenges for elderly or disabled individuals as accessing other local amenities along Victoria Avenue requires parking amidst heavy traffic.

The majority of off-street parking is situated on the western side of Victoria Avenue at two major shopping centres: Chatswood Westfield and Chatswood Chase. The entrance to Chatswood Chase car park is accessible from Victoria Avenue.



Figure 3-3: Movement and Place Road Classification on Victoria Avenue and the surrounding network (Source: CrossleyTP, 2024)

3.4 GREEN AND BLUE

The Green and Blue theme for Victoria Avenue explores the availability of parks, gardens, greenery, and waterways that contribute to the community's well-being and environmental sustainability. These spaces help cool the air, make it cleaner, and provide places to relax and have fun. They also enhance the walking and biking experience, promoting social interaction and environmental awareness.

Key items illustrated include:

- Water bodies and features
- Street trees and canopy cover
- Connection through sound (birds, leaves rustling)

Mashman Park and Chatswood Place are the most notable locations for their connection to natural sound, with water features a major part of their place characteristics. At Mashman Park, the sound of flowing water and wildlife contributes to its tranquil setting compared to the adjacent footpath and its associated traffic noise. This is a similar effect at Chatswood Place, where the noise of the water feature attracts people passing by into the area.



Figure 3-24: Mashman Park and Victoria Place water features (Source: CrossleyTP, 2024)

Table 3-5: Victoria Avenue features and sounds (Source: CrossleyTP, 2024)

Sounds	Western Section	Eastern Section
Trees / foliage	Positive	Positive
People talking / socialising	Positive	
Traffic	Negative	Negative
Birds / wildlife		Positive
Music / creative performance		
Construction		
Industrial noise		
Wind		
Water	Positive	Positive

3.4.1 Comfort & Greening

Different sections of the project area have varying tree canopy extents, in line with the land use of each section of the street. The street provides deciduous trees which give shade during summer and allow sunlight to pass through them to provide warmth in winter.

At the western end of Victoria Avenue, the canopy is the sparsest, with 5 per cent of the area covered by trees. This area has a higher density of buildings closer to the Metro and train station.

Along the residential section of Victoria Avenue near Hercules and Jacques Street, the tree coverage is notably greater. This can be attributed to the adjacent medium-density housing, which provides a more conducive environment for tree growth. The highest extent of tree coverage, reaching 30%, is found near Macquarie Street.

There is a moderate coverage of 12 per cent at North Willoughby around Penshurst Street.



Figure 3-25: Street trees on Victoria Avenue
(Source: CrossleyTP, 2024)



Figure 3-26: Street Tree Coverage at mesh block level, % (Source: TfNSW Movement and Place, 2024)

3.5 COMFORT AND SAFETY

This section delves into the Comfort and Safety theme, which focuses on assessing whether roads and streets are designed with sensitivity to their surroundings, including clear speed limits and infrastructure that fits well with the local context. Additionally, it looks into various aspects of safety, including personal safety considerations.

Environmental factors such as clean air, sunlight, shaded areas, and available space play a significant role in fostering environmental comfort and a sense of safety. It's imperative that road and street environments are designed to accommodate all users safely, without posing a risk of serious harm or injury.

To understand the comfort and safety performance of Victoria Avenue we discuss:

- The crash record over the most recent five-year period
- The space available for people to walk and potential crowding
- The level of separation between people (walking and cycling) and passing traffic



Figure 3-27: Fencing along Victoria Avenue at the continuous footpath with Spring Street (Source: CrossleyTP, 2024)

3.5.1 Crash history

Between 2018-2022 there were a total of 24 crashes along the Victoria Avenue project area.

Table 3-6: Crash number from 2018 to 2022
(Source: CrossleyTP, 2024)

Severity	Number
Fatal	0 (0%)
Serious	6 (25%)
Moderate	8 (33%)
Minor / Other Injury	5 (21%)
Non-casualty(towaway)	5 (21%)
TOTAL	**24**

This included a variety of different severities spread throughout the road. However, no fatalities were recorded

There was a notable group of crashes at the Victoria Avenue western approach to Archer Street. This the busiest intersection within the project area, with multiple people and turning vehicles.

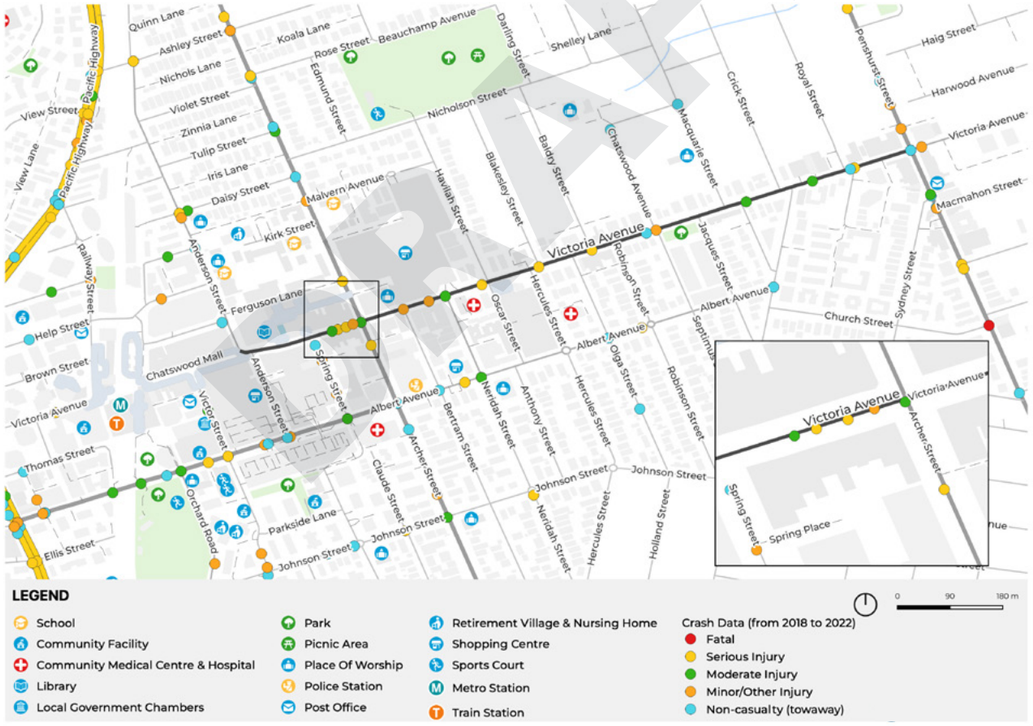


Figure 3-28: Crash history from 2018 to 2022
(Source: CrossleyTP, 2024. Crash data source from Transport Open Data Hub, 2021)

3.5.2 Walking and cycling crash history

This cluster to the west of the Victoria Avenue / Archer Street intersection includes several crashes. From analysing the crash data, the following two movements were the most common in the area, indicating that these occurred by people crossing the road on the western side of the intersection in front of eastbound traffic on Victoria Avenue:



Other cycling and walking crashes are distributed throughout the street, with a higher concentration to the western side of Victoria Avenue. This area has a greater number of active transport users such as people in the vicinity of shopping areas.

Anecdotally, there has been several near misses at the intersection of Oscar Street and Victoria Avenue, near Chatswood Place. This is a common desire line with no crossing facilities.



Figure 3-29: Walking and cycling crash history from 2018 to 2022
(Source: CrossleyTP, 2024. Crash data source from Transport Open Data Hub, 2021)

3.5.3 Speed limits

The speed limits along Victoria Avenue are:

- 50km/h from Penshurst Street to Hercules Street
- 40km/h from Hercules Street west to the commercial core

The road network around Victoria Avenue has speed limits of either 40km/h or 50km/h. There are some parts of the surrounding road network that have a speed limit of 10km/h and can be found next to Chatswood Station. Major roads such as Pacific Highway and Penshurst Street have speed limits of 60 km/h.

The crash density, highlighting the location of crashes involving all transport, shows there are two major crash areas on Victoria Avenue at the intersections with Archer Street and Neridah Street.

These locations have a high concentration of people and turning vehicles, posing risks to those in the area.

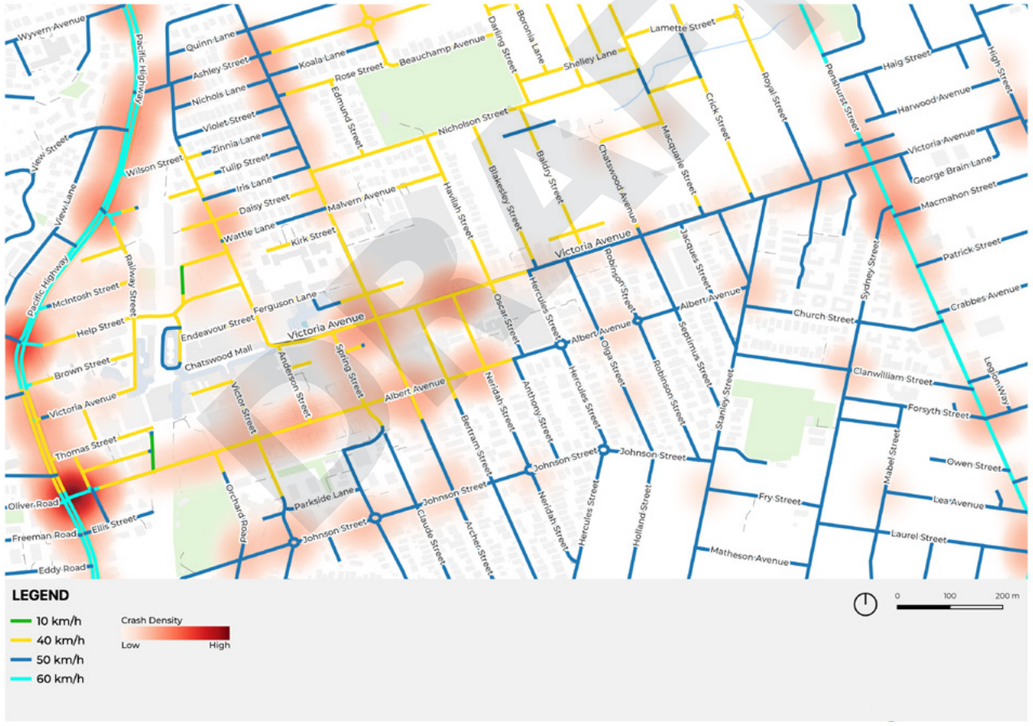


Figure: 3-30: Crash density (all mode) and vehicle speed zones
(Source: CrossleyTP, 2024. Crash data source from Transport Open Data Hub, 2021)

3.5.4 Crossing facilities

Crossings along Victoria Avenue are more densely located on the Western end, with signalised crossings near the walking-only Chatswood mall and a scramble crossing at Archer Street.

Crossing facilities to the east are less formalised due to overall lower numbers of people. The signalised crossings at Baldry Street and Penshurst Street are located in isolated areas of higher activity.

Pedestrian refuges cater for east-west movement along Victoria Avenue, to assist crossing of side street approaches.

Walking and cycling crashes do not show a strong correlation to the location of crossing facilities, with the kerb extension and signalised crossing at Neridah Street the two most aligning with crossing locations.

This indicates that several issues have occurred along desire lines not catered for by crossing facilities.

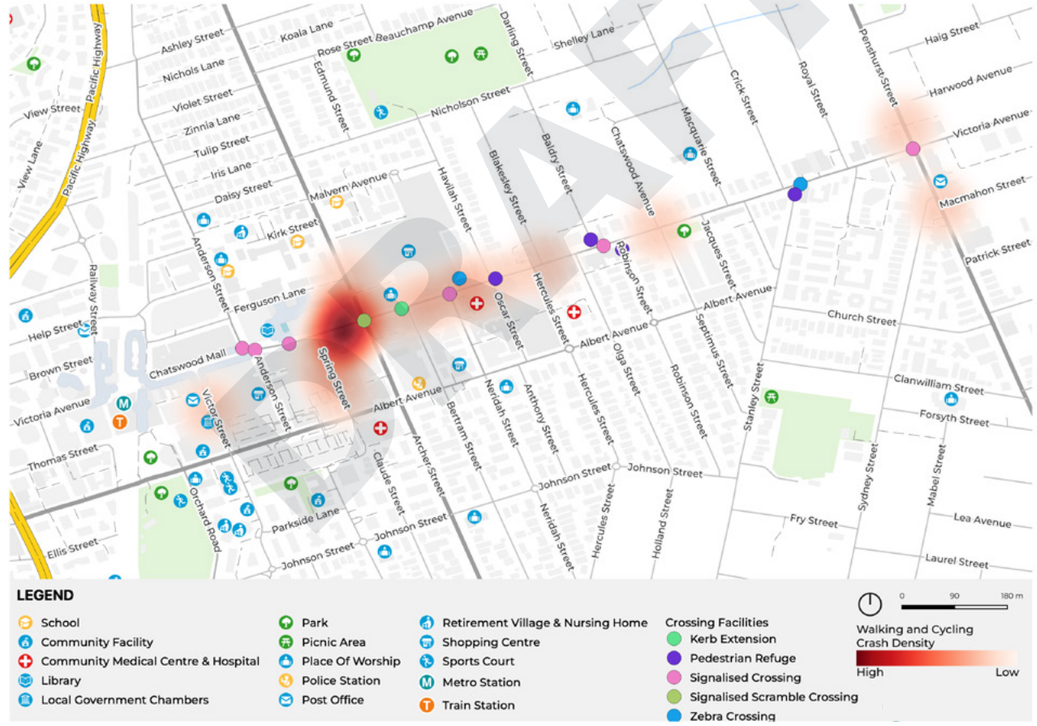


Figure 3-31: Victoria Avenue crossing facilities with walking and cycling crash data
(Source: CrossleyTP, 2024. Crash data source from Transport Open Data Hub, 2021)

3.5.5 Walking network Performance

Walking Level of Service

Given the volume of people to support comfortable walking, this equates to 3.5 m for the busy section of Victoria Avenue from Anderson Street to Hercules Street; and 2.5 m for the medium level of activity from Hercules Street to Penshurst Street.

Along the project area, footpath LoS is generally at an acceptable standard along Victoria Avenue, with side streets showing a lower LoS. Footways are generally spacious excluding a few pinch points where trees and bus stop shelters occupy some of the footway space.

Despite the wide footways provided within the CBD, the high volumes resulted in levels of comfort dropping to LoS D. Future developments will impact the LoS of existing footpaths, as higher volume of people will affect the ability for current widths to provide comfortable walking space

The side streets connecting into Victoria Avenue scored poorly with most footways having 1.5 metres of less of clear walking space, resulting in LoS F.

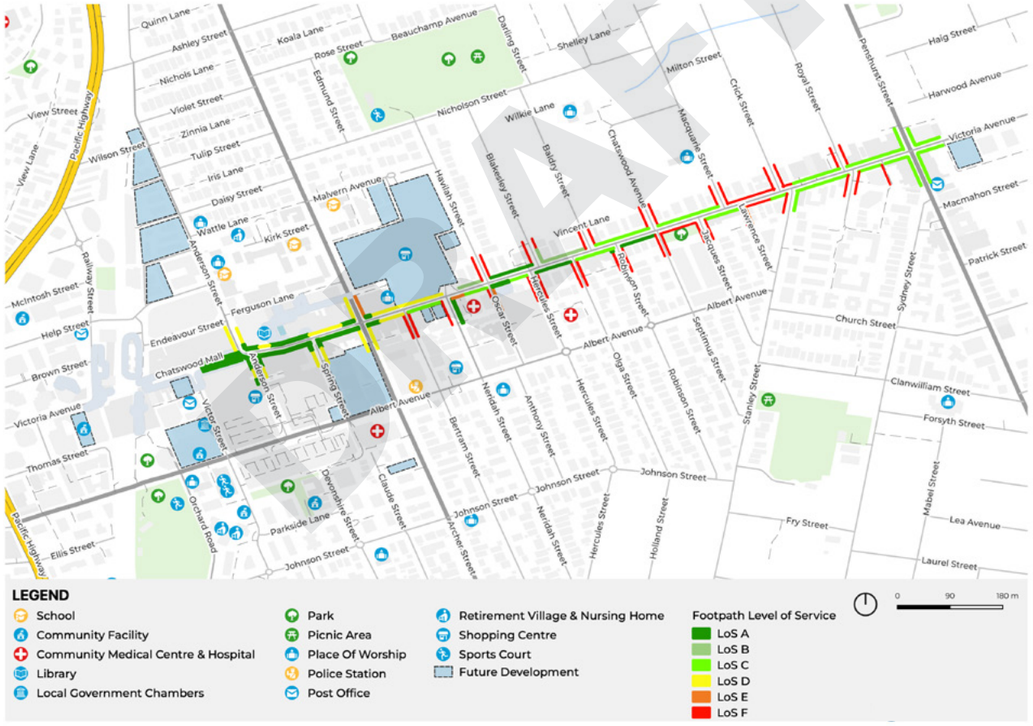


Figure 3-32: Footpath Level of Service on Victoria Avenue and adjacent footpaths (Source: CrossleyTP, 2024)

Technical note: The *Walking Space Guide (TfNSW)* offers a method to quantify walking comfort. Here, comfort is categorised into six ranges termed 'Level of Service. Level of Service A is the highest level of comfort and inclusivity for a footpath and fully accommodates the volume of people passing and the activities such as outdoor dining. Level of Service F represents a footpath that is failing and does not meet the basic needs for people to walk. Level of Service C is the desirable benchmark defined by TfNSW.

3.5.6 Cycling network performance

Cycling Traffic Stress Level

The cycling environment has been translated into stress levels as per the Cycleway Design Toolbox. This assessment presents an understanding of who the existing bicycle network is attracting to cycle; and who are disincentivised by the levels of stress (that is, concern for safety).

As illustrated, the current stress levels along Victoria Avenue range from level 3 between Anderson Street and Hercules Street, increasing to level 4 from Hercules Street to Penshurst Street. Additionally, there is a scarcity of streets in the surrounding area with low stress levels (level 1 & 2) that connect to Victoria Avenue.

This high stress environments only attract the 'strong and fearless' and 'confident and enthused' rider types. This demonstrates Victoria Avenue is failing to encourage the 'interested but concerned' rider types who represent the 'all ages and abilities' demographic.

This is evidenced by the low-levels of cycling participation for journey to work trips (ABS Population and Housing Census, 2021), and three cycling crashes along Victoria Avenue recording from 2018 to 2022 (TfNSW, 2021).

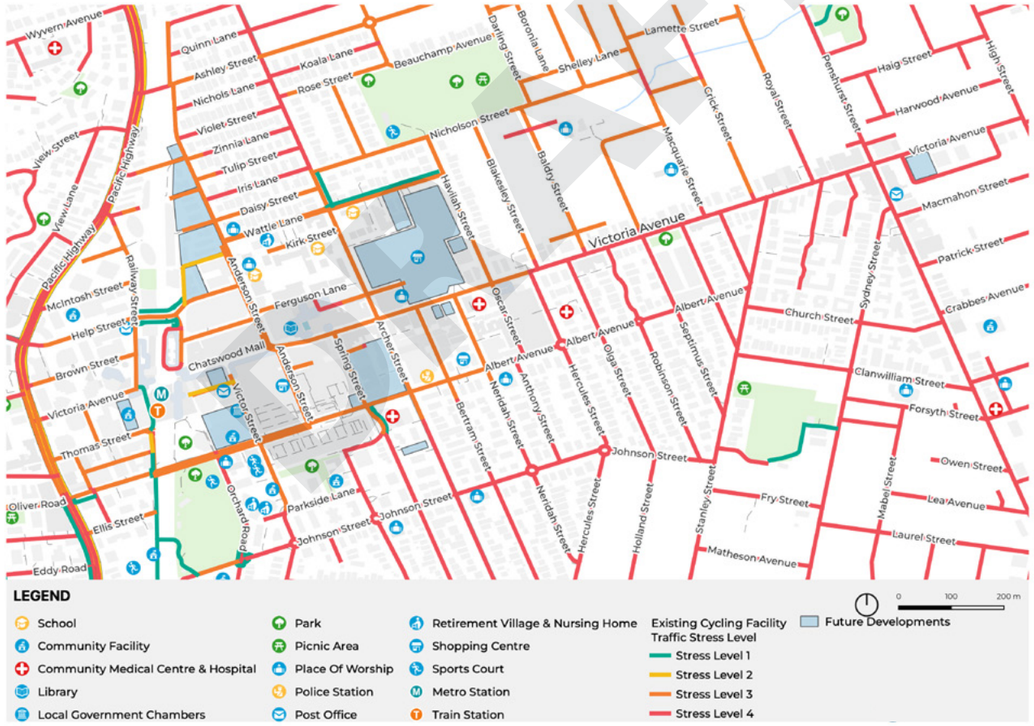


Figure 3-33: Level of Traffic Stress for people cycling on Victoria Avenue and surrounds (Source: CrossleyTP, 2024)

Technical note: The *Cycleway Design Toolbox* offers a methodology to evaluate the comfort level of cycling based on the type of bicycle facility and the level of physical separation from vehicular traffic, as well as the speed and volume of adjacent traffic. The level of stress ranges from Level 4, a high-stress environment where people cycling share a travel lane with high speed and high volumes of vehicles, to Level 1, a low-stress environment where people are completely separated from traffic. Level 2is the desirable benchmark defined by Transport for NSW

3.6 CHARACTER AND FORM

This section looks at the design and activation of spaces tailored to human needs, while honouring their distinct attributes. When streets and buildings prioritise people, they foster pedestrian activity and cultivate social interactions.

3.6.1 Identity

The identity of a place emerges from its architecture, natural environment, and inhabitants. As different cultures and histories shape our communities, each place has its own character. To explore Victoria Avenue's character, we have explored the presence of heritage and cultural buildings, unique street features and the use of the space for events and celebrations.

This can include the introduction of art or cultural connection throughout the urban landscape. As shown in Figure 3-34, features such as art celebrating Aboriginal culture and the brick factory at Mashman Park connect to the history of Victoria Avenue.

Street events such as Lunar New Year festivities celebrate Chatswood's East Asian community by closing Victoria Avenue to vehicles. Along Victoria Avenue, this celebration is continued throughout the year with banners, shown in Figure 3-35.









Figure 3-34: Street art building cultural character (Source: CrossleyTP, 2024)

Figure 3-35: Lunar New Year celebrations (Source: CrossleyTP, 2024 and Visit Chatswood, 2024)

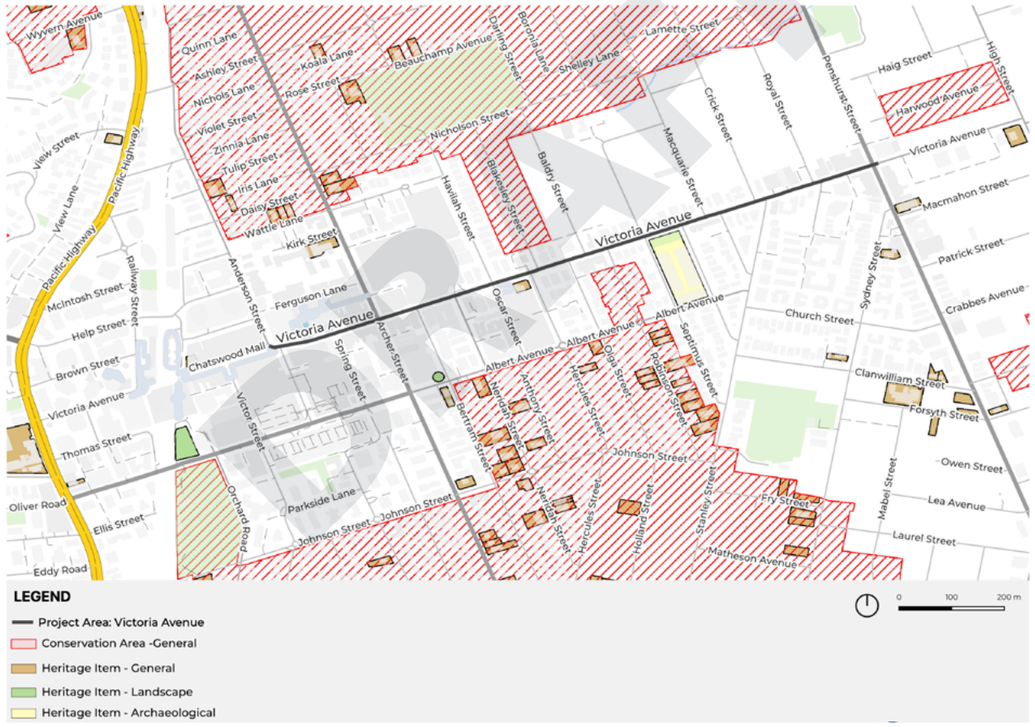
3.6.2 Heritage and culture

While Victoria Avenue boasts large conservation areas to its north and south, the proximity of significant heritage and cultural features to the project area is limited.

Two significant heritage items along Victoria Avenue are designated as Heritage Items. The former is a former residential building, repurposed for commercial use, situated adjacent to the Chatswood Place shopping centre on the corner of Victoria Avenue and Oscar Street.

The latter is Mashman Park, adorned with public artworks and a fountain, serving as a tribute to the legacy of the Mashman Brothers company, who operated a pottery business on this site.

Conservation areas in the surrounding streets are confined to Blakesley Street to the north and Robinson Street to the south, both predominantly characterised by low-density residential dwellings.


Victoria Avenue
Victoria Avenue
Victoria Avenue

3.6.3 Key cultural locations and built form (From Anderson Street to Hercules street)

Victoria Avenue has several key locations that reflect the distinct culture and form of Chatswood. In the CBD Core, this includes a high density of large shopping destinations in addition to a cultural centres.



Chatswood Westfield

This major shopping centre is a hub for retail in the Chatswood CBD



The Concourse

Home to a theatre and restaurants, this open space is used for cultural events such as Lunar New Year



Restaurants and retail

This location receives high foot traffic, with several shops reflecting the cultural diversity of Chatswood



Victoria Plaza

This centre features diverse food stalls serving Chatswood's different communities



Chatswood Chase

A major shopping centre houses a wide range of amenities, marking the beginning of the CBD on its eastern fringe

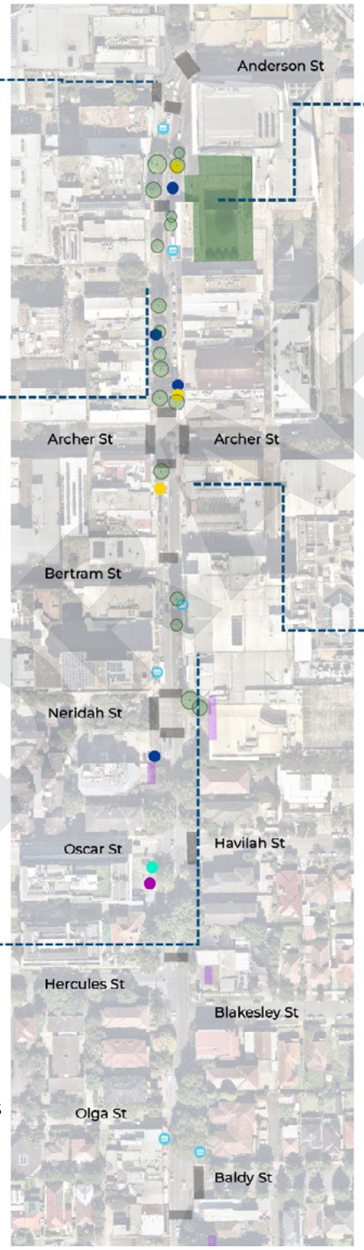


Figure 3-37: Victoria Avenue Western Section (Source: CrossleyTP, 2024)

3.6.3 Key cultural locations and built form From Hercules Street to Penshurst Street)

Further east, the built form reflects the residential character of East Chatswood, with a mixture of medium density housing and low-density retail locations. Historical value is preserved at Mashman Park.



Chatswood Place

This shopping hub acts as a place to stay, with space set back from the street creating a plaza and water feature



Retail and bus stop

This location has several cafes and shops, acting as a meeting place for the community



Mashman Park

This heritage listed park highlights the past brickworks through murals and its brick built-form



Street scape

Building setbacks create space for street trees that line much of Victoria Avenue east of Havilah Street



Penshurst Street

Retail space in this area is of a lower street scale relative to the CBD area



Figure 3-38: Victoria Avenue Eastern Section (Source: CrossleyTP, 2024)

3.7 SUMMARY AND CONCLUSION

The existing conditions of Victoria Avenue highlight the current strengths and weaknesses of the corridor. As shown in Table 3-4, Local Opportunities, and Distinct are the two highest scoring with Link to Nature and Comfortable the lowest scoring. This reflects the CBD and medium density residential nature of Victoria Avenue, with culturally valuable amenities present. However, this is lacking comfort and natural character.

Access and Connection:

Footpath facilities exist along the length of Victoria Avenue. However, there is currently limited cycling facilities, with no dedicated separated space. Bus stops exist along the whole project area, connecting to Chatswood station.

Amenity and Use:

The density of housing and employment supports a variety of local opportunities on Victoria Avenue. However, the street lacks disabled and loading zone parking areas as well as bicycle parking and places to rest. The population and employment density is expected to increase with future mixed-use residential developments.

Green and Blue:

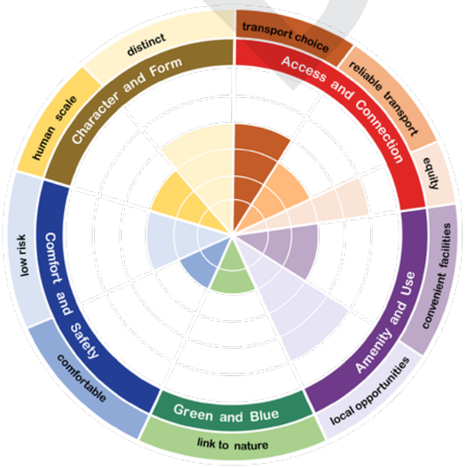
Level of tree canopy varies from 5% in the CBD core to 30% near the intersection with Macquarie Street. There is limited access to waterways and impervious surfaces are uncommon in the urban environment.

Comfort and Safety:

The area holds some risk to people, with footpath crowding and crashes involving people walking and cycling recorded in the area. Noise and air quality also diminishes the level of comfort for people, in addition to limited street lighting over footpaths in some areas.

Character and Form:

The scale of buildings follows a mixture of densities, with an adequate proportion of road space for people in most areas. The distinct cultural diversity of Chatswood acts as a major attraction for visitors.



Max score of each pie is 3. Scores have been rounded to the nearest 0.5 for visual purposes Each segment is worth 0.5.

Theme	Outcome	Existing Score
Access and Connection	Transport Choice	1.88
	Reliable Transport	1.33
	Equity	2.00
Amenity and Use	Convenient Facilities	1.55
	Local Opportunities	2.71
Green and Blue	Link to Nature	1.20
Comfort and Safety	Low Risk	1.40
	Comfortable	1.00
Character and Form	Human Scale	1.67
	Distinct	2.20
Total (/30)		**16.93**

Table 3-4: The existing Built Environment Indicators (BEI) scores of Victoria Avenue (Source: CrossleyTP, 2024)

4. Who uses Victoria Avenue?

Understanding demographics and travel preferences helps us evaluate and design places for people.

Understanding the diverse needs and preferences of our community is essential for informing future planning and development initiatives. To gain insights, the study has explored six key questions:

- Where are People living?
- Who lives here?
- Where do they live and work?
- How do people travel to work?
- How do people use Victoria Avenue?
- What's People's experience of Victoria Avenue?

Data has been collected from various sources, including observations, community feedback, and statistical analysis. Considering the impact of the COVID-19 pandemic, our analysis spans both 2016 and 2021, providing a comprehensive view of the community

The sources of statistical data include:

- Australian Bureau of Statistics (2016 and 2021)
- Travel Zone Projections (TfNSW, 2016)

It is important to note that the existing population and employment data are within the Chatswood District boundary (refer to Figure 4-2), based on data from the Australian Bureau of Statistics. Conversely, the projected data is within the Chatswood Travel Zone boundary (refer to Figure 4-5), derived from Travel Zone Projections by TfNSW. The data of travel zone projections based on the traffic assessment and considered goals and targets of households, jobs, economy growth by Willoughby community strategies and plans.



Figure 4-1: People walking along Victoria Avenue (Source: CrossleyTP, 2024)

4.1 WHERE ARE PEOPLE LIVING?

Victoria Avenue falls within the Chatswood district boundary. As of 2021, approximately 26,000 people reside in this vicinity.

As illustrated, the majority of residents inhabit the area surrounding the study site. Specifically, there is a high population density around the Chatswood train and metro station, located within a 400-meter walking catchment from Westfield. This proximity allows most residents to access key amenities along Victoria Avenue within a 5 to 10-minute walk. Additionally, they benefit from a variety of public transport options for traveling further afield.



Figure 4-2: Chatswood District boundary (Source: Profile.id, 2024)



Figure 4-3: Resident Population Density. (Source: Australian Bureau of Statistics, Census of Population and Housing, 2021)

4.2 WHO LIVES HERE?

4.2.1 Current population

The service groups for the Chatswood divide the population into categories which reflect typical life-stages. It provides insight into the level of demand for age-related services and facilities

Our community is relatively young. A breakdown of the age groups using our services reveals that the predominant group consists of parents and homebuilders aged 35 to 49, accounting for 26 per cent. This is followed by the young workforce aged 25 to 34, making up 17 per cent of our service users. Additionally, seniors aged 70 to 84 constitute 8 per cent, while those aged 85 and over represent another 2 per cent. Young students aged 5 to 17 make up 14 per cent of our service users.

The dependence of certain demographic groups, such as young students and seniors, as well as individuals with health and mobility issues, is affected by their ability to drive a private vehicle. Without alternative travel choices, the loss of a driving license can significantly impact their independence, becoming reliant on friends and family for transport.



Figure 4-4: Chatswood age groups (Source: Australian Bureau of Statistics, Census of Population and Housing, 2021)



43% of residents are aged **25-49**

The large proportion of individuals within the parents and homebuilders, and young workforce age group has generated increased demand for housing, employment, education, and childcare services. Also, this demographic contributes to a higher volume of commuting trips, particularly during peak hours.



15% of residents need assistances (including disabled people, and elderly people over 70)

10 per cent of the senior population leads to a higher demand for medical services, assisted living, and care.

Indeed around 7.5 per cent of the population require assistance for daily tasks due to a disability.

4.2.2 Future population growth

The current population dynamics, coupled with anticipated high growth rates, are expected to increase demand for transport and traffic infrastructure. Figures 4-5 and 4-6 illustrate the projected population growth within each mesh block up to 2036, offering valuable insights for targeted investment in transport infrastructure along Victoria Avenue.

As indicated in these figures, Area 2 and 3, located on the western side of Victoria Avenue, are expected to experience the highest levels of population growth. Significant increases are also projected in Areas 5 and 7 by 2036. Additionally, a substantial number of residents already reside in these areas, with many more anticipated to move into both the northern (Area 2) and southern (Area 7) sections. This highlights the growing demand for people to move within Victoria Avenue and access key amenities and facilities.

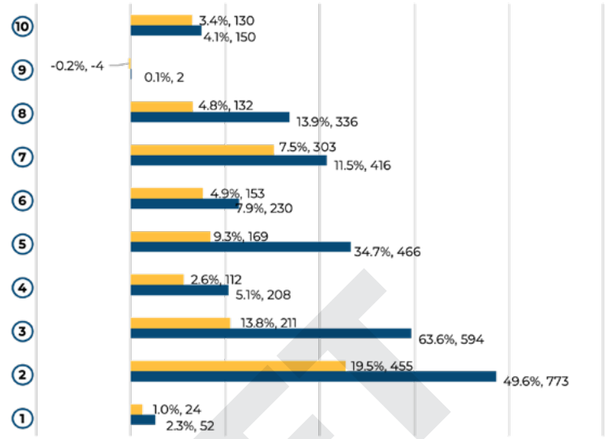


Figure 4-5: Cumulative Population Growth based on the Travel Zone Projections 2021-2041. (Source: TfNSW, 2022)

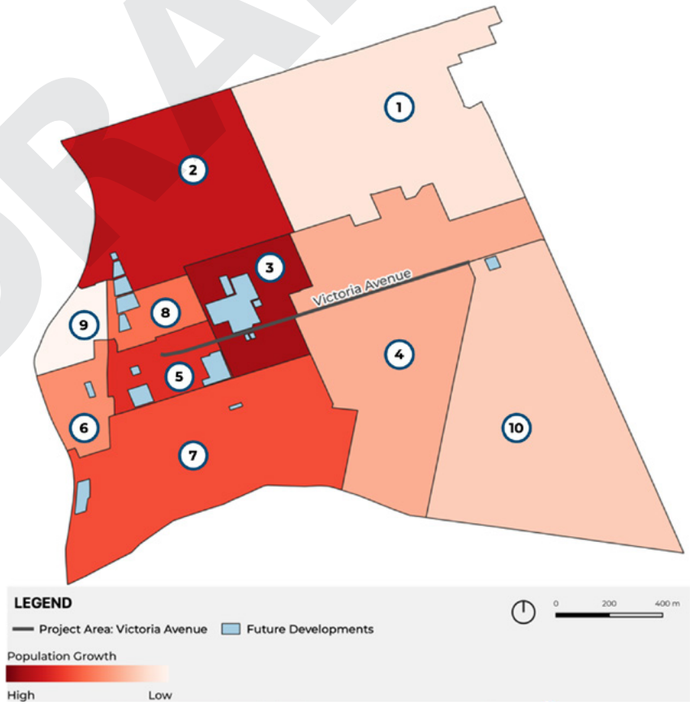


Figure 4-6: Population growth rate based on the Travel Zone Projections 2021-2041. (Source: TfNSW, 2022)

4.2.4 Cultural diversity

Incorporating the cultural significance of Victoria Avenue into this assessment adds a rich layer to understanding community and it's values. The existing cultural diversity along Victoria Avenue encompasses a vibrant blend of Chinese, English, Australian, Korean and Irish. Notably, the prevalence of Chinese ancestry constituting 34% of the population, underscores the significant cultural footprint of the community. This fosters social cohesion, economic growth opportunities (during festivals, special occasions) and contribute to night-time economy.

The cultural diversity along Victoria Avenue presents opportunities for economic growth, especially during festivals and cultural events. These occasions attract visitors, boosting foot traffic and local spending. Celebrating this diversity enhances the avenue's character and amenity, creating a vibrant and attractive destination for residents and tourists alike. By leveraging its cultural identity, Victoria Avenue can become a thriving hub of activity, fostering community pride and driving economic prosperity.

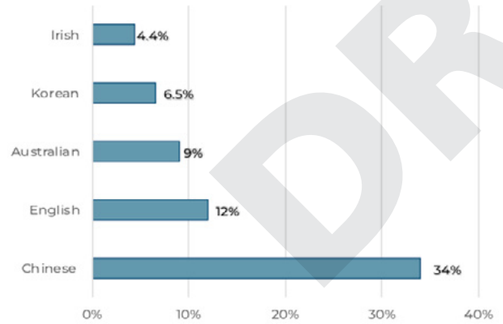


Figure 4-7: Existing Cultural Diversity in Chatswood (Source: ABS, 2021

4.2.5 Health conditions

Making everyone feel welcome to use Victoria Avenue, we need to attract more people to walk and ride. Designing streets for motor vehicles, has led to car dependency and sedentary lifestyles contributing to various health conditions.

We have analysed 2021* census data to elaborate on the health conditions for the Chatswood area. The top five health conditions displayed are closely linked to the absence of walking and cycling.

There is a large requirement for promoting active transport in Chatswood. Investing in infrastructure improvements such as footpaths and bike lanes directly supports the infrastructure needs for walking and cycling. Traffic calming measures not only enhance safety but also create a more conducive environment for walking and cycling, addressing the safety requirements for active transport. By implementing these recommendations, Chatswood can effectively meet the requirements for fostering a culture of active transport, thereby improving public health outcomes and reducing reliance on sedentary modes of transport.

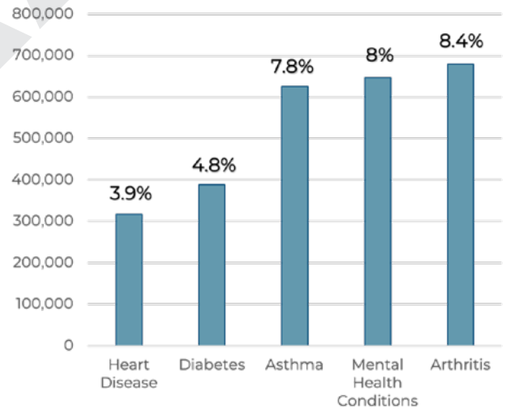


Figure 4-8: Top 5 Health Conditions Related to AT in Chatswood (Source: ABS, 2021)

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4.3 WORKFORCE

4.3.1 Where do they live and work?

An analysis of the 2021 SA2 boundaries (Figure 4-10) reveals that 11.3% of residents in the Chatswood area work locally within Chatswood. The majority of residents, however, need to commute to other major employment hubs such as Sydney CBD, North Sydney, St Leonards and Macquarie Park, all of which are well-serviced by train, metro, and bus networks accessible from Victoria Avenue.

Figure 4-9 indicates that employment in Chatswood is primarily concentrated around the Chatswood train station/metro in the southwest and a portion of the southeast section of Victoria Avenue. The area's robust public transport system, including bus, train, and metro services, greatly enhances the ease and convenience of commuting to and from Chatswood, providing residents and visitors with reliable and accessible travel options. This well-connected transport network not only helps to reduce private vehicle usage and alleviate congestion but also promotes sustainable travel options within and around Chatswood.

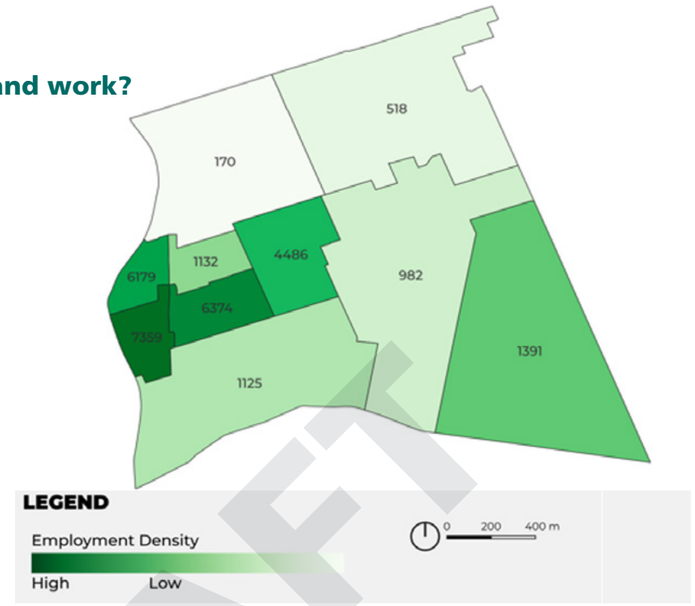

Figure 4-9: Employment Density. based on the Travel Zone (Source: TfNSW, 2022)

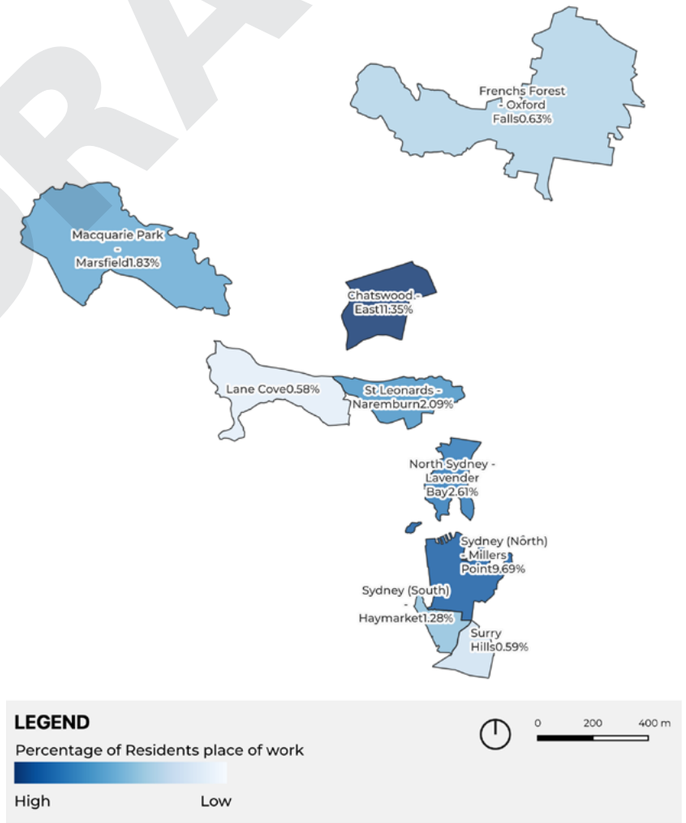

Figure 4-10: Top 10 working places for residences (Source: ABS, 2021)

4.3.2 How do people travel to work?

In Figure 4-11, most people did not need to travel to reach work, either because they were working from home or did not go to work. The latter category includes those not active in the workforce, such as retirees and the unemployed (age 15 and over). The significant shift to working from home is likely influenced by the ongoing impact of Covid-19, which altered traditional commuting patterns. Given that retirees make up 19% of the population, it is also likely that a substantial portion of this group consists of those working from home due to pandemic-related adjustments.

Private vehicle usage remains high for both residents and those travelling to Chatswood, indicating a continued preference for car travel.

Public transport usage remains stable at 10% across both groups. This is relatively low, especially considering that the top ten employment destinations for resident workers are located on the train or metro line, suggesting that public transport may not be fully meeting the needs or preferences of commuters.

Active transport (walking and cycling) shows low participation, which may reflect not only low demand but also a potential lack of supporting infrastructure.

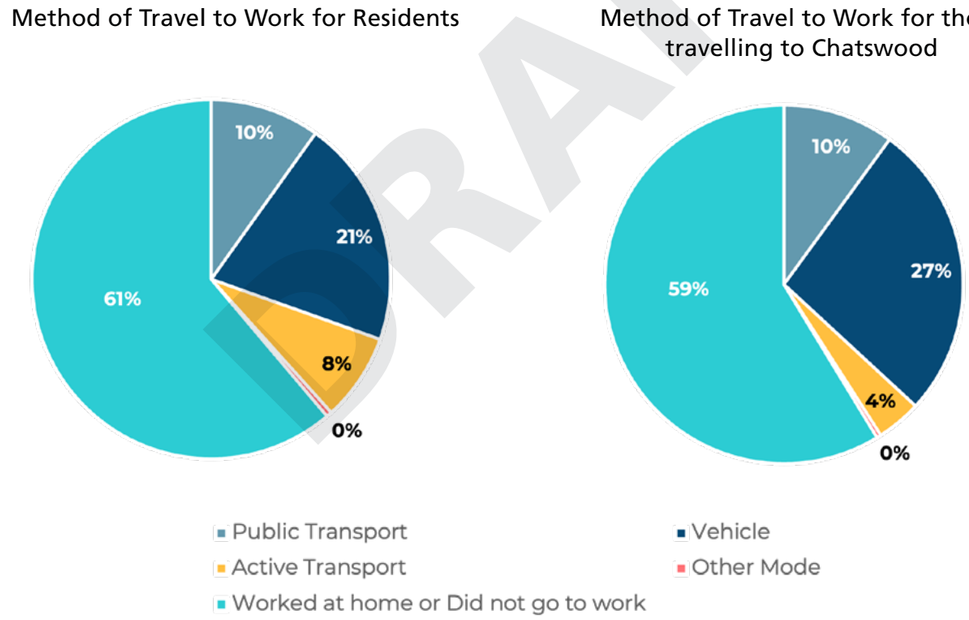

Figure 4-11: Method of Travel to Work for Residents (left) and Method of Travel to Work for those travelling to Chatswood (right) (Source: ABS, 2021)

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4.3.3 Future employment patterns

Figures 4-12 and 4-13 show that Areas 1 and 7 are projected to experience the highest employment growth (around 7%), with Areas 2 and 10 also seeing positive growth. In contrast, other areas are expected to face negative growth, indicating fewer job opportunities.

With the projected growth of around 26% across the study area between 2021 and 2041, there is a need to improve transport connections between the eastern and western parts of Victoria Avenue, where the primary employment hub will remain concentrated. Enhancing public and active transport to link residential areas with key commercial centres is essential. However, the relatively low proportion of people choosing public and active transport, as indicated in the journey-to-work statistics, suggests potential barriers that could lead to increased traffic congestion and associated risks if not addressed.

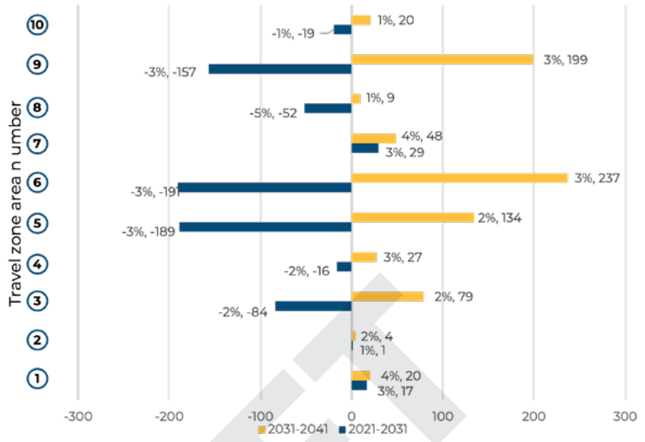


Figure 4-12: Employment growth in 2031 and 2041 based on Travel Zone Projections (Source: TfNSW, 2022))



Figure 4-13: Employment growth rate based on Travel Zone Projections for 20 years (Source: TfNSW, 2022)

4.4 HOW DO PEOPLE USE THE STREET?

4.4.1 Victoria Avenue Western Section (From Anderson Street to Hercules street)

Our observations for Victoria Avenue West consisted of a variety of people interacting with the built environment and using public space in the following ways:

- Seniors were observed to be resting and using the space.
- High proportion of students using the space.
- A large portion of people wait and access the bus services.
- A high proportion of people use the scramble crossings and footpaths near the shops.
- A large proportion of people accessing the commercial hubs (Chatswood Chase, Westfield).
- High activity to and from the station and Chatswood Library.

The walking and gathering patterns were also recorded and shown overleaf to analyse how different demographics of people interact with the built environment and understand where people are spending time.

This analysis showed a 57 per cent female gender split, with most moving through the area rather than staying.

The movement analysis also highlighted the intensity of movement closer to Chatswood Station relative to the eastern



Figure 4-14: Older people resting on a bench at the intersection of Victoria Avenue and Anderson Street (Source: CrossleyTP, 2024)



Figure 4-15: People of all ages walking along the western section of Victoria Avenue (Source: CrossleyTP, 2024)



Figure 4-16: People staying and waiting for a bus (Source: CrossleyTP, 2024)



Figure 4-17: A delivery person cycling through the western section of Victoria Avenue (Source: CrossleyTP, 2024)

Healthy Streets Assessment - Victoria Avenue Western Section (From Anderson Street to Hercules street)

Snapshot

In March 2024 data was collected to monitor the usage of Victoria Avenue in the western section of Chatswood. The data collection involved recording the number of people using the street at a fifteen-minutes interval during peak time form 12:00pm to 12:15pm.

Moving total 367 within 15 minutes

Staying total 42 within 15 minutes

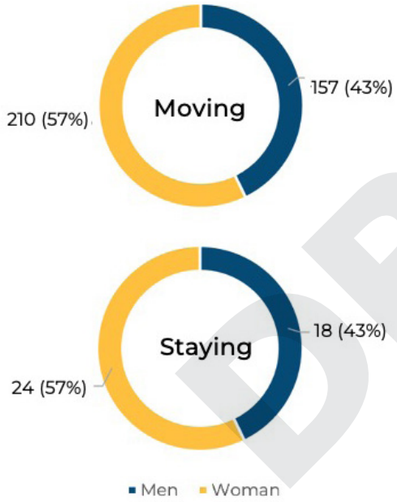


Table 4-1 Activities observed in Victoria Avenue Western Section (Source: CrossleyTP, 2024)

Activities			
In a group	✓	On a laptop or phone	✓
By themselves	✓	Walking a pet	
Walking	✓	Riding a bicycle	
Pushing a pram	✓	On a skateboard / scooter	
Using a mobility aid	✓	Reading	
Socialising	✓	Performing / busking	
Relaxing / sitting	✓	Exercising / playing	



Figure 4-18: How people use Victoria Avenue West (Source: CrossleyTP, 2024)

4.4.2 Victoria Avenue Eastern Section (From Hercules street to Penshurst Street)

The following observations for Victoria Avenue East, which has a distinct residential character, were found to be contrasting to the western section:

- People were observed to cross mid-block outside of the designated crossing point.
- A limited number of people, including those walking towards Chatswood CBD or Penshurst Street, were observed in this area.
- Higher tree canopy coverage providing more comfort for people to walk
- Children and Seniors were observed to be using the space.
- More females were observed walking than males.
- There was limited activity at Mashman Park.

The walking and gathering patterns were also recorded for this section, shown overleaf.

For this section. a more even split of genders was observed moving along Victoria Avenue. This movement was mostly low-level, with higher concentrations near Chatswood Avenue and Penshurst Street.

The activities in this area are limited relative to the CBD, with less use of public spaces showing a greater propensity for through movement.



Figure 4-19: Fewer people walking along the eastern end of Victoria Avenue (Source: CrossleyTP, 2024)



Figure 4-20: People of all ages walking along the eastern section of Victoria Avenue (Source: CrossleyTP, 2024)



Figure 4-21: People crossing side street without crossing facilities (Source: CrossleyTP, 2024)



Figure 4-22: People staying at Mashman Park. (Source: CrossleyTP, 2024)

Healthy Streets Assessment - Victoria Avenue Eastern Section (From Hercules street to Penshurst Street)

Snapshot

In March 2024, data was collected to monitor the usage of Victoria Avenue in the western section of Chatswood. The data collection involved recording the number of people using the street at a fifteen-minutes interval during peak time form 12:20pm to 12:35pm.

Moving total 62 within 15 minutes

Staying total 10 within 15 minutes

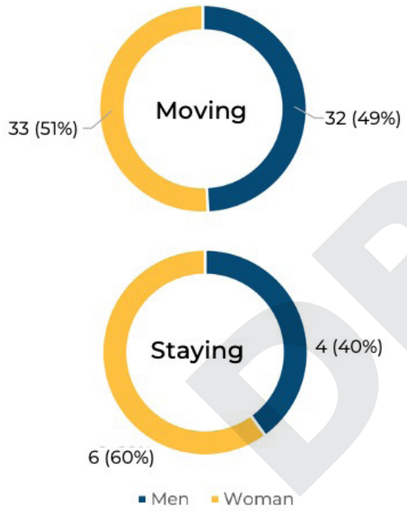


Table 4-1 Activities observed in Victoria Avenue Eastern Section (Source: CrossleyTP, 2024)

Activities			
In a group	✓	On a laptop or phone	✓
By themselves	✓	Walking a pet	✓
Walking	✓	Riding a bicycle	✓
Pushing a pram		On a skateboard / scooter	
Using a mobility aid		Reading	
Socialising		Performing / busking	
Relaxing / sitting		Exercising / playing	

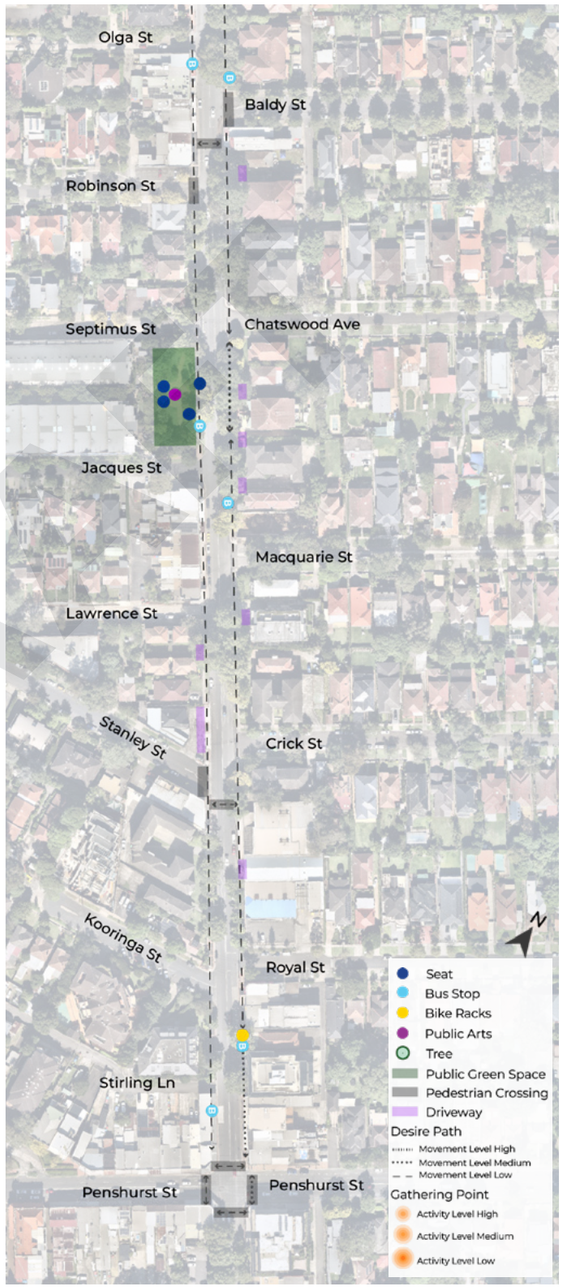


Figure 4-18: How people use Victoria Avenue East (Source: CrossleyTP, 2024)

4.5 OVERVIEW OF PEOPLE'S EXPERIENCE OF VICTORIA AVENUE

In summary, Victoria Avenue's Public Spaces Evaluation yielded a rating of 2.9, indicating a need for enhancements in connectivity and utilisation to better align with the community's needs and preferences. The evaluation responses emphasised the importance of creating green and inviting spaces, reducing traffic, and promoting active use of public areas throughout the day and night. By prioritising these critical elements, we can work towards realising the shared vision established by residents and councillors.

Participants appreciated features such as the bike route on Havilah Street, walking activity, wide footpaths, bus connectivity, and bike infrastructure, along with vibrant retail options and Chatswood markets. However, they expressed dissatisfaction with the lack of crossing infrastructure, and car centric road design. Concerns about the absence of a night-time economy, parking issues, and underutilisation of Mashman Park were also raised.

To address these concerns, participants suggested reducing traffic, installing kerb and pram ramps, developing cycling lanes, and replacing on-street parking at key locations with dining spaces. They also advocated for creating more public spaces for people to enjoy. Addressing these likes, dislikes, and suggested changes is essential to transform Victoria Avenue into a more vibrant, accessible, and welcoming space that caters to the diverse needs of the community.

We have aligned the outcomes from the walkshop with the Movement and Place framework, as illustrated in figure 4-25 overleaf. This alignment highlights the progress Victoria Avenue has achieved and the areas where our community seeks improvement across the five Movement and Place themes.

Overall Quality of Public Space 2.9
* Max score of 5
Victoria Avenue

AM I ABLE TO GET THERE?
Low score refers to the lack of walking and cycling prioritisation on Victoria Avenue, while vehicular movement is quite high. People with disabilities and older groups, find walking on Victoria Avenue may be challenging at times, and the limited crossing facilities contribute to the safety concerns.

2.6/5

AM I ABLE TO PLAY AND PARTICIPATE?
Low score refers to the lack of space and facilities available for people to exercise and play. Mashaman Park was referred to an underutilised space that has opportunity to be elevated. There are limited facilities between the East and West of Victoria Avenue with limited cultural activities.

2.5/5

AM I ABLE TO STAY?
Moderate score refers to the distinct availability of facilities and perceptions of safety. The West has more protected seating, space to mingle and surveillance for safety as compared to the East.

3.1/5

AM I ABLE TO CONNECT?
Moderately high score as compared to the other traits, due to Chatswood showcasing strong Asian cultural traits (specific to the Western side), and its contributions to local businesses, and events. Whilst it has strong cultural traits, it does lack aboriginal significance, and evidence of volunteerism, and may not create a sense of belonging for all.

3.4/5

Technical note:

The *NSW Great Places Toolkit* offers practical tools for evaluating public spaces and their use, based on various factors, including accessibility, opportunities for play and participation, comfort, and connectivity to the surrounding area. By assigning scores ranging from 1 to 5 to each of these themes.

	What you like	What you don't like	What you want to change
Access and Connection	• Bike route on Havilah street • High activity • Wide footpaths • Bus connectivity • Bike infrastructure	• Lack of crossing infrastructure • Car-centric • Lack of flow and permeability between both sides of the roads	• Reduction of traffic • Kerb and pram ramps • Cycle paths • More public transport
Amenity and Use	• Variety of vibrant retail • Chatswood markets • Cafés, restaurants and widow displays	• Lack of night-time economy on Victoria Avenue • High parking on Victoria Ave • High vehicular noise	• Replace on-street parking with dining spaces • Public spaces for people to linger and rest • Signage for bike racks • Better transition between western and eastern • Improve night-time economy
Green and Blue	• Tree canopy coverage on streets • Mashman Park • Tree canopy coverage over seating in Victoria Ave West	• Mashman Park is underutilised • Tree canopy coverage is not consistent • Not enough landscaping	• More tree canopy • Better landscapes
Comfort and Safety	• Protection with crossing infrastructure • Extra 20s crossing time at traffic signals	• Noise pollution • Unsafe crossing options for walking and cycling	• Reduced speed limits • Wayfinding and signage • Comfortable walking space • Safe crossing points
Character and Form	• Easy to navigate • Wide footpaths • Use of different pavement materials	• High density of residential and commercial buildings	• Wider footpaths and set-backs • Encourage street facing retail

Figure 4-25: Outcomes from the Walkshop based on the BEIs (Source: Crossley TP 2024)

5. Key Challenges and Opportunities

A vision-led approach is essential for planning and delivering the desired outcomes for Victoria Avenue. This approach involves setting clear targets for 10 outcomes that have been shown to represent the liveability of places, as outlined in the Movement and Place Practitioners Guide. These targets were developed in collaboration with community representatives who attended a workshop in April 2024. By comparing the street's existing performance against these targets, we can identify gaps and areas for improvement. A deficit in a target score represents an issue that needs to be addressed to achieve the desired liveability outcomes.

Comparing the targets with the current scores helps us identify gaps between what is expected and the desired outcomes. The biggest gaps, highlighted in red, are within the themes of access and connection, green and blue spaces, and the comfort and safety of the streets. These largest gaps form the 'priority outcomes' and represent significant challenges that need to be addressed. The individual gaps within these themes form the main issues that guide the strategy and help identify the right opportunities and solutions. What we heard from the community and stakeholders during the workshops and walkshop has been organised into these key issues, which are discussed in the next section, 5.1.

This chapter identifies the challenges and opportunities linked to achieving the vision and objectives, drawing from the evidence and insights gathered in earlier stages. The steps include:

- Summarising the causes of key deficits, linking back to deficiencies in the existing transport network outlined in Chapters 3 and 4.
- Forming a strategy framed by principles, directions, and actions to address these challenges, based on community and stakeholder input, aligned with priority outcomes.
- Exploring specific tactics and opportunities to resolve the issues and bridge the deficit gap, illustrating how these initiatives will deliver the desired outcomes for the community.

Table 5-1: Key deficits of Victoria Avenue (Source: Crossley TP 2024)

Theme	Outcome	Existing Score	Workshop Scores		Deficit	
			West	East	West	East
Access and Connection	Transport Choice	1.88	3.0	2.0	**-1.12**	-0.12
	Reliable Transport	1.33	2.5	2.5	**-1.17**	**-1.17**
	Equity	2.00	3.0	3.0	**-1**	**-1**
Amenity and Use	Convenient Facilities	1.55	2	2.0	-0.45	-0.45
	Local Opportunities	2.71	2.7	2.7	-	-
Green and Blue	Link to Nature	1.20	3.0	2.0	**-1.8**	-0.8
Comfort and Safety	Low Risk	1.40	3.0	2.0	**-1.6**	-0.6
	Comfortable	1.00	3.0	3.0	**-2**	**-2**
Character and Form	Human Scale	1.67	1.7	1.7	-	-
	Distinct	2.20	2.5	2.2	-0.3	-
Total (/30)		**16.94**	**26.5**	**23.1**	**-9.46**	**-6.16**

Biggest deficits forming our priorities

DRAFT

5.1 KEY CHALLENGES

A rapidly expanding population and thriving industries with diverse transport needs

Victoria Avenue is a bustling and dynamic street, offering unique experiences and streetscapes. With compact settlements, Chatswood boasts a wealth of attractions within easy reach of its main street, making it an enticing destination for both residents and visitors. Moreover, Victoria Avenue's thriving economy continues to generate abundant job opportunities.

BBy 2041, the Chatswood CBD population is projected to increase by 66%, while employment is expected to grow by 26% over the next decade. As the area grows, the demand to access local amenities, services, and attractions will rise, placing more pressure on Victoria Avenue to efficiently move people and goods.

Community consultation has identified the primary barriers along Victoria Avenue and articulated the community's desires. These insights have played a pivotal role in shaping our strategy and identifying priorities. A summary of our community's identified key deficits, desired outcomes, and the underlying causes of these deficits is outlined below:

Transport Choice: Victoria Avenue presently serves as a vehicle-centric corridor, primarily dominated by cars. However, our community expresses a growing interest in incorporating more sustainable transport options, including biking and buses. The community has outlined the following issues:

- Lack of continuous cycling facilities on Victoria Avenue.
- Limited frequencies on some bus services, especially in the evening.

Reliable Transport: Reliability of public transport was highlighted as a concern by our community.The primary issue identified was:

- Several bus services do not follow timetables accurately, leading to long time waiting.
- Bus service cancellations

Equity: Ensuring that Victoria Avenue is a destination accessible by all people is an important part of the community's values. Current issues include:

- Missing crossing facilities at desire lines.
- Inadequate space on footpaths and uneven footpath surfaces.
- Limited public seating to stop and rest on the route.
- Some crossing points have low priority for people.
- Long waiting time at signalised intersection.

Link to Nature: Our community highly values the natural ambiance of Victoria Avenue in the residential area.Issues that currently exist are:

- The CBD core lacks street trees to shade people walking and cycling.
- Mashman Park does not contain enough facilities to entice people to the area.
- Flooding issues along Victoria Avenue.

Low Risk: The safety concerns were reiterated throughout all community consultations. Current challenges include:

- High volumes and high-speed vehicles make it difficult to cross and create a pedestrian crash hotspot at the intersection with Archer Street.
- The lack of physical separation of cyclists from traffic creates a stressful environment.
- Inadequate street lighting for pedestrians.
- Narrow footpaths in residential areas.

Comfortable:Our community has emphasised the need for creating comfortable streets for both movement and staying.The community highlighted several issues such as:

- Riding with traffic is stressful.
- Traffic noise makes it difficult to socialise.
- Urban heat island effect.
- There are limited inclusive facilities to support people who need assistance or walk with wheelchairs or prams.
- Crossing facilities lack pedestrian priority.

5.2 OUR APPROACH

Achieving our vision for Victoria Avenue means creating a space that truly reflects the diverse needs of our community, ensuring accessibility for everyone, regardless of age or ability.

Victoria Avenue will cater to residents, businesses, and visitors alike, fostering a cultural shift that draws more people to visit and stay. This sustainable growth will enrich our quality of life and support both physical and mental well-being.

Our approach, guided by the NSW Movement and Place Framework, places people's health and well-being at the forefront of our planning efforts. This framework informs our strategies and actions, ensuring they deliver the intended benefits to the community.

Additionally, our approach is both dynamic and adaptive, allowing us to refine our tactics based on continuous feedback and insights from the community. This adaptability ensures that our initiatives remain responsive to the evolving needs and preferences of residents.

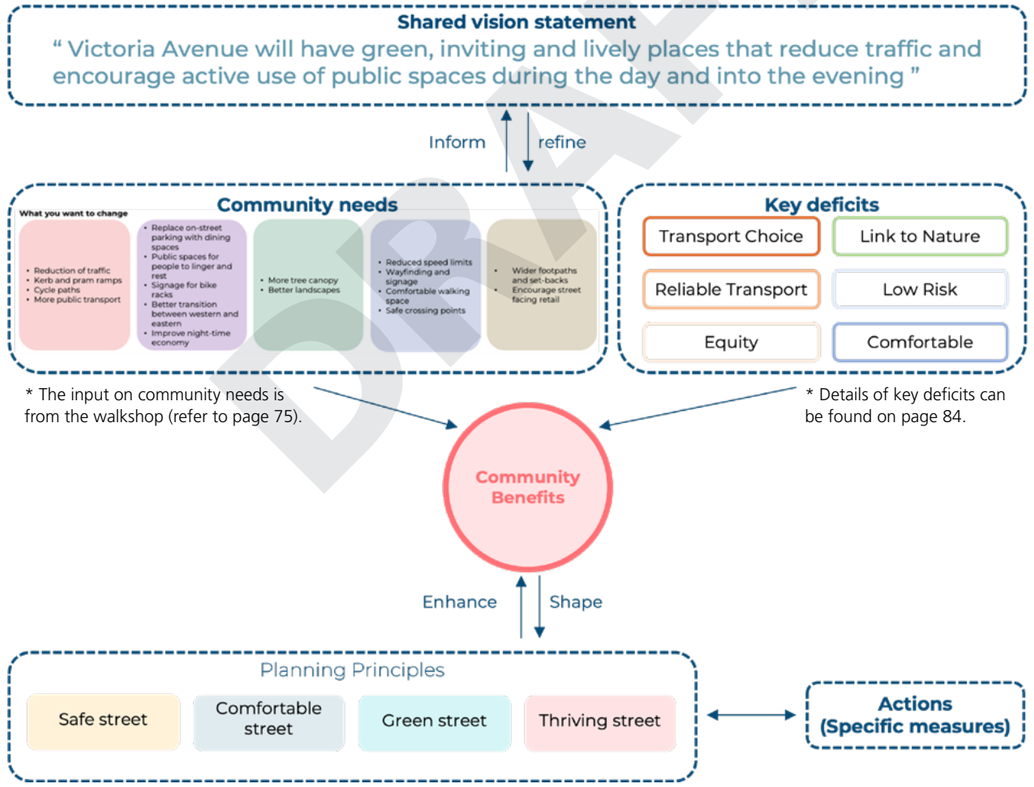


Figure 5-1: Our approach (Source: Crossley TP 2024)

Our principles and tactics

Placing people and the community at the heart of our strategy requires shifting urban and transport planning approaches from vehicle-centric to people-centric design. This change focuses on creating environments that prioritise the needs and well-being of pedestrians, cyclists, and the broader community, ensuring that our planning efforts support vibrant, accessible, and inclusive public spaces. This forms the focus of the four planning principles: A safe street, a comfortable street, a green street and a thriving street. These principles are accompanied by a set of directions that align tactics and actions towards delivering the desired outcomes as detailed in Table 5-2. In summary, the tactics include measures that are appropriate to the street environment and its function today and in the future including:

- Slowing down motorists by implementing traffic calming measures such as wombat crossings, buildouts, trees, and shared spaces. These effectively calm the street environment and improve safety and comfort.
- Expanding pedestrian areas and providing safer crossings to make walking more comfortable and accessible.
- Making it more comfortable to cycle by reducing conflict between people riding and adjacent motorists. This can be achieved by either separating users or slowing traffic movements.
- Creating public spaces, including 'bumping spaces,' for recreation, social interactions, and community gatherings.

Key concept: Transformation from Vehicle-Centric to People-Centred Street Design



Figure 5-2: User hierarchy for designing streets for people (Source: gehlarchitects)

Safe street

Ensuring street safety is a crucial priority in addressing issues of equity and reducing risks. Therefore, this strategy aims to calm traffic on Victoria Avenue through measures that align with the people-centred street design concept. It will:

- Make it easier to cross the street
- Make streets feel safer

The measures will make the street more pleasant and welcoming, attracting more people to walk and cycle.

Comfortable street

Creating inclusive and comfortable streets is essential for all users of Victoria Avenue. To achieve this, we will:

- Provide comfortable space for people
- Improve the comfort of facilities

These strategies aim to cater to our diverse community by creating a comfortable walking and cycling environment and providing inclusive facilities to support their mobility

Green street

Advancing sustainable growth requires creating green public spaces for people to gather and stay, while enhancing connections with existing green and blue areas like Mashman Park. This encompasses:

- Create a cooler environment

It will provide support for pedestrians, cyclists, and visitors by creating a cooler and shaded environment and provide more space to relax. This initiative will also enhance resilience to climate change and accommodate the rapid population growth.

Thriving Street

The aim is to make getting to Victoria Avenue easier and more interesting and convenient to attract people to stay. People will genuinely enjoy exercising, meeting friends, relaxing, or simply getting around on foot or by bike. The strategies focus on activating the street by:

- Provide convenient facilities
- Create a vibrant street throughout the day and night

The strategy will foster economic vitality and social interaction and create a unique character for Victoria Avenue.

Approach assessment

The Principles and tactics in this study will focus on:

- Addressing the barriers within the six priority outcomes along Victoria Avenue.
- Ensuring that our solutions cater to people of all ages and abilities.
- Focusing solutions and investments on supporting individuals interested in visiting and staying at Victoria Avenue, guiding them towards a sustainable lifestyle.

The table shows how the diverse principles align with priority outcomes defined during stakeholder and community engagement.

Table 5-2: Approach assessment (Source: Crossley TP 2024)

Principles and directions		Priority outcomes					
		Transport Choice	Reliable Transport	Equity	Link to Nature	Low Risk	Comfortable
Safe Street	Easy to cross	✓	✓	✓		✓	✓
	Make streets feel safe	✓		✓		✓	✓
Comfortable street	Comfortable space for people	✓		✓		✓	✓
	Improve the comfort of facilities			✓			✓
Green street	Creating a cooler environment				✓		✓
Thriving Street	Provide convenient facilities	✓	✓	✓		✓	✓
	Create a vibrant street throughout the day and night						✓

5.3 PRINCIPLE: A SAFE STREET

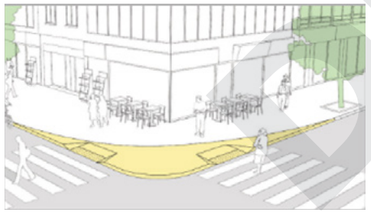
Creating a safe street is a top priority, reflecting the community's concerns about safety, as highlighted in the consultation findings shown in Figure 4-25. The issues identified by the community that contribute to feelings of being unsafe include:

- High volumes of fast-moving traffic.
- Desire lines that lack adequate crossing facilities.
- Cycling alongside fast-moving traffic and sharing travel lanes.
- Concerns about parallel parking, where traffic congestion leads to pressure on people waiting, and queues building up.

Speeding vehicles on Victoria Avenue account for approximately 25 per cent of serious injuries and 8 per cent of walking and cycling collisions. With a significant volume of both pedestrian and vehicular traffic, the area becomes increasingly complex and hazardous. Despite speed limits of 40 km/hr and 50 km/hr, these thresholds are often exceeded, exacerbating the risks.

Currently, Victoria Avenue is predominantly vehicle-centric, contributing to feelings of unease and safety concerns among people walking and cycling when crossing or riding along the route. Implementing traffic calming measures on Victoria Avenue will be key to shifting the focus from vehicles to people, encouraging slower vehicle speeds, and making the area safer for walking and cycling.

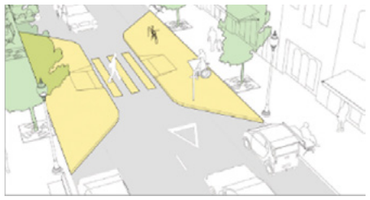
To achieve the outcomes of a safer street and to address the community's concerns about safety, a suite of tactics has been identified, as shown in Figure 5-1. These tactics are appropriate for the street environment, and their application has been carefully considered, as illustrated in Figures 5-3 and 5-4. The locations for these types of measures have been identified for further investigation to ensure their suitability for the specific conditions of the street



Reclaim the corner of intersections to slow turning vehicles



Create wombat crossings on busy streets



Reduce crossing distances and approach speeds by building out the footpath.



Share the space between low-speed buses and people walking and cycling



Use extra space to expand footpaths, plant trees and add cycleways



Plant more street trees which when mature, support calmer traffic speeds

Figure 5-1: Traffic calming measures (Source: Global Street Design Guide, NACTO)

5.3.1 Direction: Make the street easy to cross

Making it safer and easier to cross streets requires prioritising people and reducing both crossing distances and waiting times. To support movement across Victoria Avenue, it's essential to install crossing facilities that align with the desire lines identified in the public space audits (Figures 4-18 and 4-23). These treatments not only enhance safety but also promote social cohesion and improve access to businesses and attractions on both sides of the street. To achieve this, the following actions are necessary:

Install improved crossing facilities that prioritise pedestrians, reduce waiting times, and are strategically placed to meet the natural pathways people use.

Create a calm traffic environment where people feel safe crossing anywhere, not just at designated spots.

Table 5-3 outlines various treatments and how comfortable they are for people to use when crossing the street, considering factors such as crossing distance and waiting times.

Intersection Type	Facility Type		Comfort Level
Unsignalised	Walking Priority Zone / Shared Zone	Flush Walking Priority Zone	High
		Walking Priority Zone with Kerbs	Medium
	Zebra crossing / shared walking and cycling crossing	Raised Crossing	High
		Non-raised Crossing	Medium
	Other non-priority	Pedestrian Refuge	Low
Signalised	Signalised Crossing	0 - 30 seconds wait time	High
		30 - 60 seconds wait time	Medium
		60+ seconds wait time	Low

Table 5-3: Comfort level provided by each crossing type (Source: Crossley TP 2024)

Focus Box 1

Recommended treatments for easy to cross

Side street and midblock crossings

Tighten turning circles into side streets to shorten crossing distances and reduce vehicle turning speed.

At side roads, install wombat crossings or continuous footpaths to provide flush surfaces and priority for people. The raised platform will reinforce calmer and people-friendly traffic speeds.

At locations where a wombat or continuous footpath is not feasible, install a zebra crossing at side street intersections and mid-blocks with pram ramps wide enough to accommodate the flow of people.

Signalised intersections

Aim to reduce the time waiting for the green man symbol to 45 seconds or less.

Install countdown timers so people know how much time they have left to reach the other side of the road.

People cycling have their own space at the stop line such as advance bicycle boxes.

5.3.2 Direction: Make street feel safe

By addressing the safety concerns on Victoria Avenue, we can encourage more walking and cycling, making the area more lively and attractive. This is a key step in creating a vibrant, inclusive environment that prioritises community safety.

The following tactics offer ways to achieve the desired outcome of making Victoria Avenue feel safer:

1. Provision of a dedicated cycleway between Penshurst Street and Neridah Street:This is proposed in the Willoughby Cycling Strategy. Research indicates that streets with dedicated cycleways experience a decrease in crashes. The preferred treatment would be a unidirectional cycleway, as it provides the best access to shops and amenities on both sides of the street. Additionally, it simplifies movements at intersections by eliminating the counterflow of cyclists, making it easier to understand and navigate. If this is not possible, an alternative could be implementing a cycleway on the parallel street of Albert Avenue, which also provides connectivity to the train station.
2. Transforming all or part of Victoria Avenue into a multi-mode boulevard: This involves lowering the speed limit to at least 40 km/h to create a more comfortable environment for people to ride and share the travel lane with motorists and buses. It also makes walking and crossing the street easier and more comfortable.
3. Introducing a shared zone:Most suitable for the bustling high street end of Victoria Avenue, this approach combines low speed limits with a design that allows the free flow of people walking and cycling. This enhances the cohesion of the high street, making it a more vibrant and community-friendly space. The shared zone could be implemented at certain times of the day or on specific days of the week, or even piloted as an extension to a market day. Examples of shared zones in similarly bustling high streets are discussed overleaf.

Focus Box 2
Streets with cycleways are safer

Study by **the New York City Department of Transportation (2014)** titled Protected Bicycle Lanes in NYC found that streets where protected bike lanes were installed saw reductions in total crashes, including those involving pedestrians and motor vehicles. The study showed that the presence of cycleways led to overall safer streets by calming traffic and reducing conflicts between different types of road users.



75%
Feel safe

Physically separated cycleway



50%
Feel safe

Shared paths and bicycle lanes



25%
Feel safe

Sharing the road with traffic

Figure 5-2: Perception of safety by facility type (Source: Aus Social, 2024, Willoughby City Council, 2023, CrossleyTP, 2024)

Shared Zone: How can we share the street space?

When our community seeks a street that integrates accessible walking and cycling facilities alongside convenient bus services, redesigning the street to accommodate everyone is a viable solution. This entails eliminating the formal segregation between spaces designated for people and vehicles, resulting in each user becoming more mindful of others sharing the space.

In the case of Victoria Avenue, a shared zone would feature a kerb-free street, with the road space dedicated to cycling, buses and freight, with other vehicles permitted during low pedestrian volume periods. A 10km/h speed limit will enable people walking to effectively find gaps in traffic, removing the need for signalised crossing points.

The space originally used for cars such as parking can be redistributed for other uses. On-street parking equates to a small share of overall supply, with the adjacent off-street parking available along Victoria Avenue preferred when discussed in community consultation.

Focus Box 3
Recommended treatments for safer walking and cycling



Shared Zones are a great way to enhance the public space network in commercial areas



In residential areas, dedicate road space to people riding as a separated cycleway or quietway. They provide connections between neighbours and build communities



A gateway slows vehicles entering the street and at the crossing point.



Planting more street trees can create an environment for slower driving speeds.

Case Study – Shared Zone
Neubaugasse – Vienna, Austria

What is a Shared Zone ?

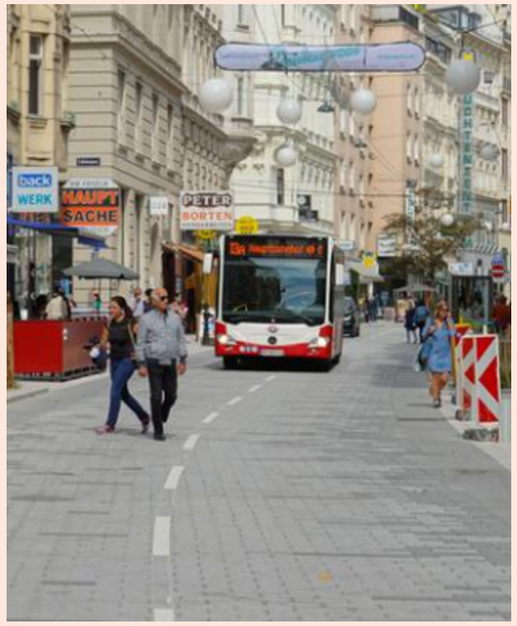
A Shared Zone is an area within a city or town where vehicular traffic is either prohibited or greatly restricted, allowing for shared use by walking, cycling and sometimes public transport.

Project Description

Located in the Neubau district of Vienna, Neubaugasse is a bustling street that has been transformed into a walking and cycling-prioritised area, making it an attractive destination for shopping, dining, and leisure activities.

What are the benefits?

Converted from a one-way street, greater accessibility has been supported by the introduction of buses and cycling in both directions. In the shared zone, vehicles are restricted to a 20 km/h speed limit, reducing traffic noise and allowing people to comfortably use the road space. The additional space freed is now utilised by green areas, seating, bicycle parking and loading zones.



(Photo source: Alamy, 2024)

Case Study – Multi-Mode Boulevard

Crown Street – Surry Hills, Sydney



What is a Multi-Mode Boulevard?

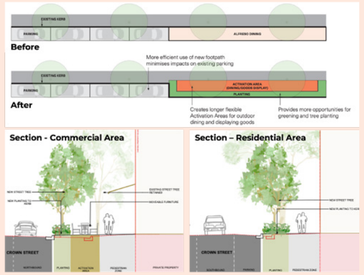
Multi-Mode Boulevard is a street that balances the needs of different modes of transport. This includes buses, pedestrians, cyclists and vehicles. Surry Hills is situated near the Sydney CBD area, yet it stands out distinctly from the high-rise CBD architecture, giving it a unique visual and walking experience. It takes just 15-20 minutes to walk from Crown Street, where the site is located, to Central Station. Additionally, the installation of the light rail line has further improved the accessibility of Crown Street. Crown Street has transformed from a traffic-centric street to a street for people, turning it into a more vibrant and inviting public space for this dynamic community.

What are the benefits?

- By prioritising pedestrians, cycling, and public transport, the improvements encourage more people to walk and cycle, promoting healthier and more active lifestyles.
- A more inviting streetscape can attract more foot traffic, benefiting local businesses and contributing to economic vitality.
- Enhancing Crown Street as a public space fosters community engagement, social interaction and allocated more space for business.

How was Crown street improved?

- Widening of the footpath by using pop-up alfresco dining and narrowing of the parking lane.
- Upgrading crossing facilities to pedestrian priority.
- Greening the kerb extension.
- Upgrading the pedestrian pram ramps.
- Building new garden beds along the street.
- Installing convenient facilities, like water bubblers, bike racks and seating.
- Placing overhead electrical cables underground.
- New multifunction smartpoles with LED streetlights.



(Photo source: ASPECT studio, 2024)

Opportunities to create a safer street

Victoria Avenue Western Section (From Anderson Street to Hercules Street)

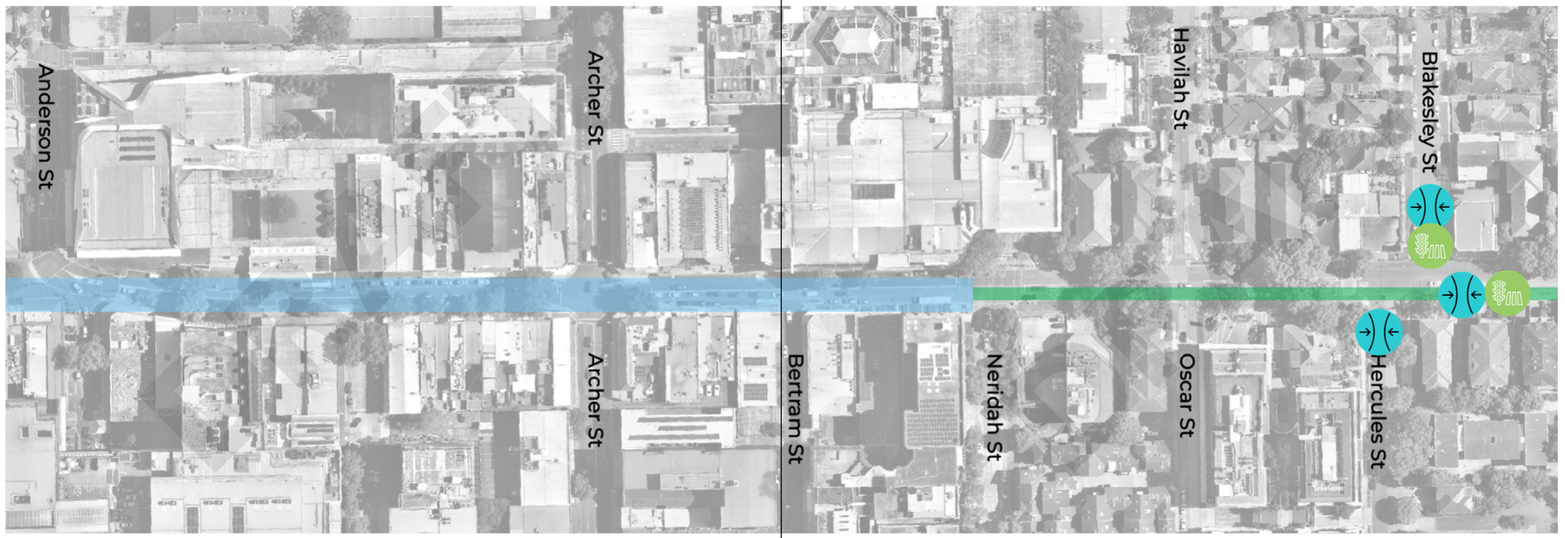


Figure 5-3: Opportunity locations for a safer street along Victoria Avenue Western Section (Source: CrossleyTP, 2024)

Opportunities to create a safer street

Victoria Avenue Eastern Section (From Hercules street to Penshurst Street)



Figure 5-4: Opportunity locations for a safer street along Victoria Avenue Eastern Section (Source: CrossleyTP, 2024)

5.4 PRINCIPLE: A COMFORTABLE STREET

Approximately 30 percent of our residents, including children, seniors, and individuals with disabilities, face challenges in traveling independently. By ensuring that footpaths are universally accessible, we can empower more individuals to achieve travel independence. This includes enabling teenagers to commute to school with friends and allowing individuals with mobility impairments to access shops or medical appointments autonomously. Moreover, this reduces the burden of care responsibilities and unpaid work, which are significant contributors to social inequities. By facilitating independent travel, we not only enhance personal freedom but also contribute to economic participation and social inclusion, thereby addressing broader inequities within our community.

To address deficits in equity and comfort within the built environment, our main objective for both the western and eastern sections of Victoria Avenue is to create a welcoming and comfortable street that prioritises community well-being. This includes ensuring equal access to services and facilities for all residents and enhancing the vibrancy of our neighbourhoods while fostering stronger community connections.

The key challenges the community identified in achieving this outcome are:

- Inadequate space on footpaths to accommodate people.
- Long crossing distances.
- Uneven footpath surfaces.
- Limited public seats to stop and rest on the route.

To enhance inclusivity and comfort, Victoria Avenue needs to allocate sufficient space for pedestrians and upgrade its facilities to accommodate various mobility requirements.



Figure 5-5: Victoria Avenue near Neridah Street (Source: CrossleyTP, 2024)

5.4.1 Direction: Provide comfortable spaces for people

The research by Transport for NSW underscores the multitude of factors influencing footpath comfort and safety, including footpath width, traffic speed, and nearby activities like outdoor dining or shopping. Introducing the Level of Service (LoS) classification system, with categories ranging from A to F, provides a structured approach to assessing footpath conditions.

When this system was applied to Victoria Avenue's footpath network and surroundings (outlined in Section 4.5.6), it revealed deficiencies in some existing footpaths, falling below the minimum benchmark of Level of Service C for comfort and accessibility.

In our commitment to fostering a welcoming and inclusive community, it's imperative that street design prioritizes inclusivity. This entails ensuring ample space for comfortable walking movement, accommodating personal items such as shopping trolleys and prams, and prioritizing accessibility for all, including wheelchair users, mobility scooter riders, and cyclists.

5.4.2 Direction: Improve the comfort of facilities

Improving the comfort of facilities along streets is vital for ensuring inclusivity and promoting active transport. Providing regular opportunities to rest is especially important for individuals who find longer journeys challenging. Seating is crucial in creating welcoming environments for everyone, making streets more inviting and accommodating.

Furthermore, offering facilities with even surfaces benefits various segments of our population, including those with limited mobility or balance issues. By providing accessible amenities, we encourage all community members to engage in active transport and enjoy our towns.

Additionally, adequate lighting is essential for enhancing the comfort and perceived safety of active and public transport journeys, particularly at night. Well-lit pathways and roadways improve visibility, making navigation easier and instilling confidence in travellers. Moreover, proper lighting acts as a deterrent to criminal activities, contributing to a safer environment for all road users. To achieve these goals, council plans to maintain and improve the highest level of safety and comfort for our community.

Focus Box 4

Recommended treatments for comfortable streets

- Level and widen narrow footpaths to remove trip hazards.
- Improve the quality of uneven pram ramps at crossing point.
- Improve bus stops and associated amenities to align with future council strategies, ensuring they meet the evolving needs of our residents and contribute to our long-term goals.
- Implement a bench every 50-100m along Victoria Avenue at a location that is shaded / sheltered.
- Implement specific lighting within high activity areas to increase the perceived personal security and safety at night.
- Implement tactile markings alerts people to immediate changes in the environment, including public transport stops or the presence of ramps and stairs.
- Install drinking water facilities at key destinations to ensure access to clean and safe drinking water for visitors upon their arrival.

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Opportunities to increase levels of comfort

Victoria Avenue Western Section (From Anderson Street to Hercules Street)

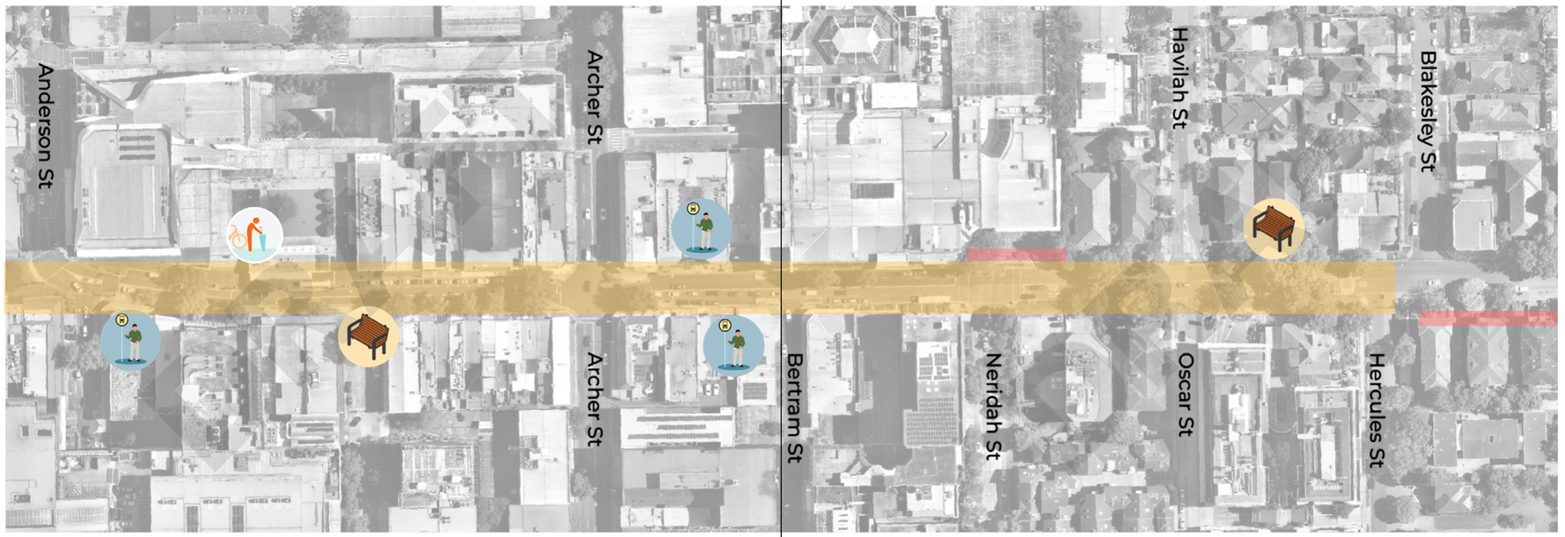

Figure 5-6: Opportunity locations for increased level of comfort along Victoria Avenue Western Section (Source: CrossleyTP, 2024)

Opportunities to increase levels of comfort

Victoria Avenue Eastern Section (From Hercules street to Penshurst Street)

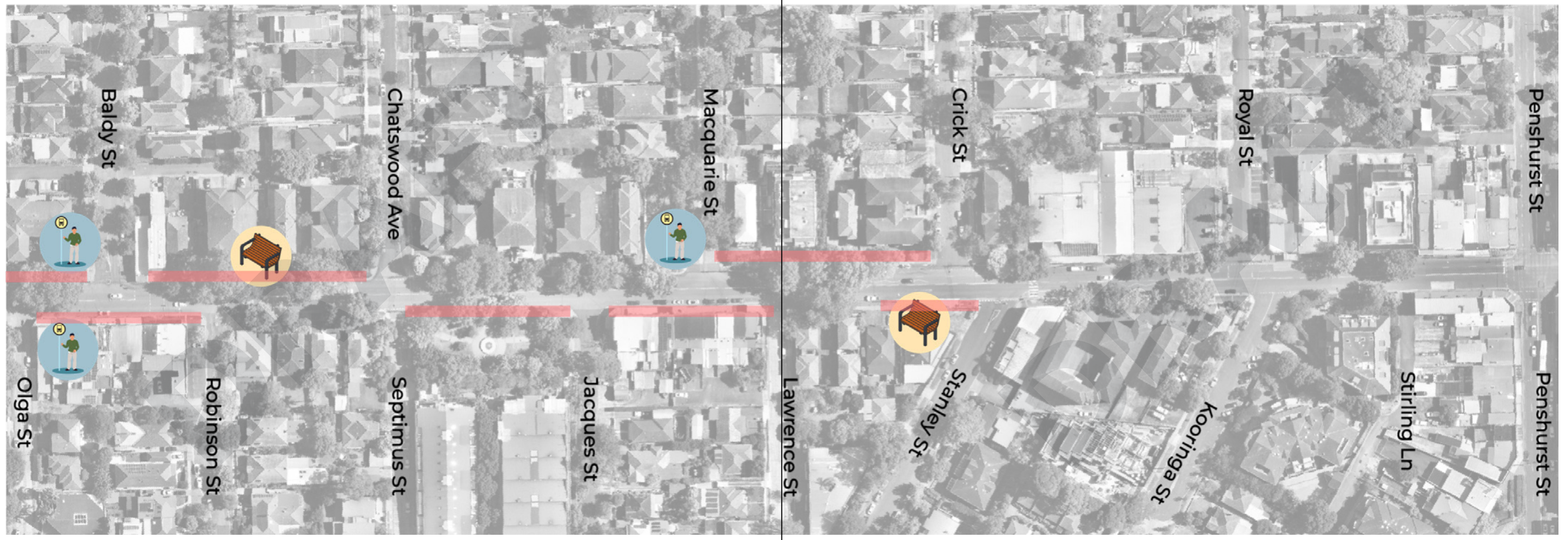

Figure 5-4: Opportunity locations for a safer street along Victoria Avenue Eastern Section (Source: CrossleyTP, 2024)

5.5 PRINCIPLE: A GREEN STREET

A key objective is to establish more green spaces, as this initiative promotes community health and supports future growth. One of the things the community loves about Victoria Avenue is its mature trees in the eastern section, and there is a strong desire to see this greenery integrated with the high street.

- The main challenges to overcome on Victoria Avenue are:
- Shade and shelter where people walk or ride.
- Flooding issues along Victoria Avenue: During heavy rain events or storms, Victoria Avenue and surrounding areas are susceptible to flooding, posing risks to public safety and infrastructure. Floodwaters can disrupt traffic flow and damage roads and buildings.
- Urban heat island effect—Victoria Avenue is 4 degrees warmer than baseline (Source: Built environment indicators online map - TfNSW, 2024).
- Limited green space for people to gather.

To respond to these challenges, the following tactics illustrated in Focus Box 5 have been identified to deliver a green street

5.5.1 Direction: Create a cooler environment

Shade, shelter, green infrastructure, and water-sensitive urban design (WSUD) are vital in combating the urban heat island effect and supporting sustainable transport modes like walking, cycling, and public transit. This direction captures the following tactics to deliver a cooler street environment that is more resilient to severe weather events:

- WSUD at the street level includes permeable pavements, which allow water to soak into the ground, and green infrastructure such as trees, rain gardens, or swales to capture and treat stormwater before it reaches the municipal system.
- Incorporating WSUD in street planning helps mitigate urbanization's impact on water quality, drainage, and flood control, while also improving air quality, cooling the urban environment, and boosting biodiversity.
- Additionally, artificial shading, such as building awnings, pergolas, or shade sails, can further cool the surrounding area.

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Focus Box 5

Recommended treatments for creating a cooler environment

- Collaborate with private developers to incorporate shelter along active frontages.
- Use bus stops as an opportunity to implement WSUD treatments.
- Green existing concrete islands and buildouts and/or proposed separators for cycleways and bus stops.
- Implement permeable pavements in the Shared Zone or planned footpath upgrades.
- Create shade where people walk and ride and provide resilience to climate change by reallocating some parking to green pods.
- Building rain gardens and swales in Mashman Park.

Opportunities to green the street

Victoria Avenue Western Section (From Anderson Street to Hercules Street)



Figure 5-8: Opportunity locations for a greener street along Victoria Avenue Western Section (Source: CrossleyTP, 2024)

Opportunities to green the street

Victoria Avenue Eastern Section (From Hercules street to Penshurst Street)



Figure 5-8: Opportunity locations for a greener street along Victoria Avenue Eastern Section (Source: CrossleyTP, 2024)

5.6 PRINCIPLE: A THRIVING STREET

A thriving street, with a lively atmosphere, diverse offerings, strong economy, and engaging activities, attracts more visitors and encourages them to stay longer. The shared vision for Victoria Avenue envisions inviting and lively places that are active throughout the day and into the evening. Community engagement revealed a desire for longer operating hours for activities and better alignment with public transport services.

The main challenges limiting the time people spend on Victoria Avenue include:

- Limited bike parking at key destinations.
- Lack of wayfinding signage for walking and cycling.
- Long wait times for buses and lower in the evening and at weekends .
- Places are not open in the evenings, especially for commuters returning home and young professionals who want to socialise.

To address these challenges, two directions are proposed.

5.6.1 Direction: Provide convenient facilities

Convenient facilities, as defined by the principles of the NSW Movement and Place framework, are elements that enhance the accessibility, comfort, and functionality of public spaces. These facilities include infrastructure that supports a range of travel options, making it easier for people to access and enjoy public spaces. Examples of convenient facilities include well-placed bus stops that offer shelter, making public transport more accessible and comfortable; comfortable seating areas that encourage people to pause, rest, and engage with their surroundings; bike racks and parking facilities that provide secure options for cyclists and drivers, ensuring easy access to the area; and drinking water stations that are conveniently located to meet the needs of all users. Additionally, clear wayfinding signage helps people navigate public spaces easily, including those from diverse cultural backgrounds, while changing facilities and safe bike parking spots support longer trips and active transport modes.

These facilities are integral to creating a public space that is inclusive, accessible, and conducive to a thriving community, where people have multiple choices to reach and enjoy the area.

Focus Box 6

Recommended treatments for improving the convenience of facilities



Install bicycle parking facilities outside key local amenities and services.

Install frequently spaced hoops or loops to support direct access shops for deliveries and residents.

Install covered bike racks where people will spend lots of time e.g., shopping centre, and Chatswood library.



Install clear and inclusive wayfinding signage with multiple languages to cater to accommodate the diverse cultural communities.



Implement more accurate and efficient scheduling to minimize wait times on weekend.

Provide passengers with up-to-date information on bus arrivals and service disruptions through mobile apps and electronic displays at bus stops.



Install E-bike charging facilities at key destinations.

Install street furniture equipped with charging facilities for phones and laptops, catering to individuals who may need to stay for extended periods.

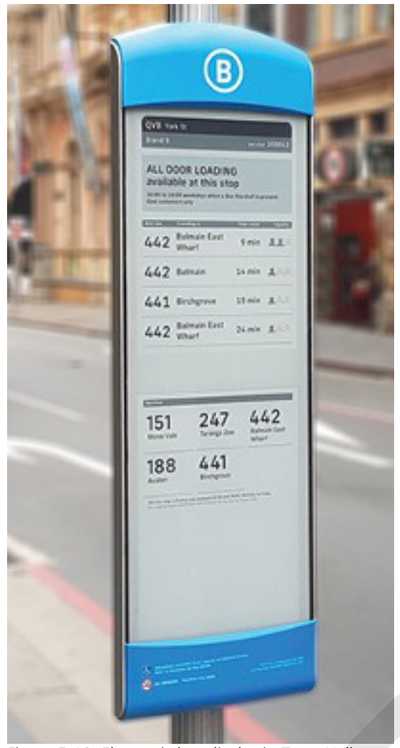

Figure 5-10: Electronic bus display in Town Hall , Sydney (Source: Digital Signage Magazine,2018)



Figure 5-12: Multilingual easy to understand signage, Brisbane (Source: SEGD)



Figure 5-13: Smart seating options with charge points. (Source: Outdoor Design, 2021)



Figure 5-11: Examples of different sheltered cycle parking facilities (Source: Various)

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5.6.2 Create a vibrant street throughout the day and night

A vibrant Victoria Avenue can attract people from surrounding areas into Chatswood by creating a people-focused street environment with unique cultural events and characteristics. More space for outdoor dining can be achieved by using an adjacent street parking bay, incorporating provisions as part of kerb build-outs, or through temporary or permanent side street closures—even along parts of Victoria Avenue. This expansion allows local businesses to cater to more patrons, boosting the night-time economy.

Creating streets where people want to stay involves refining certain areas to enhance the overall experience. One such tactic is the temporary closure of streets to create additional space for markets, events, and other activities. This approach could support anything from annual events to weekly markets, offering a flexible solution to accommodate various activities that bring the community together.

Additionally, incorporating artwork that strengthens cultural identity is key to setting Victoria Avenue apart from other high street destinations. Murals on walls or pavement surfaces can bring life to the area and create a visually attractive space that draws visitors. On Victoria Avenue, there is potential for murals to celebrate the past and present cultural diversity of the area, including the indigenous Cammarigal people and current East Asian communities. These artistic elements create a distinctive and memorable experience for visitors, making Victoria Avenue a truly unique place to visit and enjoy.

To ensure Victoria Avenue thrives into the night, lighting is essential for enhancing comfort and perceived safety. Well-lit public spaces improve the local community's perception of safety through stronger passive surveillance, which helps reduce crime and antisocial behaviour. Additionally, lighting can enhance the sense of place by illuminating building facades, water features, trees, and unused open spaces, stimulating evening activity and expanding the timeframe for activities that people feel comfortable undertaking both during the day and into the night.

Focus Box 7

Recommended treatments for creating a vibrant street throughout the day and night

- Repurpose space, such as concrete islands, build-outs, and under-utilised parking or loading areas, to create valuable public spaces with shade, seating, and opportunities for outdoor dining.
- Close space to traffic and open the street for cultural and recreational events and festivities.
- Introduce art murals to build character and emphasise cultural identity and value.
- Extend street lighting to encourage activity after dark and enhance the evening atmosphere.



Figure 5-14: Historical art mural, Mashman Park (Source: Willoughby City Council)



Figure 5-16: Outdoor dining spaces on George Street, Sydney (Source Crossley TP, 2024)



Figure 5-17: Trees lit during festivities encouraging place activation (Source: MK Illiumination)



Figure 5-15: Chatswood Celebrates the Lunar New Year (Source: North Sydney living, 2024)

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Opportunities to deliver a thriving street

Victoria Avenue Western Section (From Anderson Street to Hercules Street)



Figure 5-18: Opportunity locations for a thriving street along Victoria Avenue Western Section (Source: CrossleyTP, 2024)

Opportunities to deliver a thriving street

Victoria Avenue Eastern Section (From Hercules street to Penshurst Street)

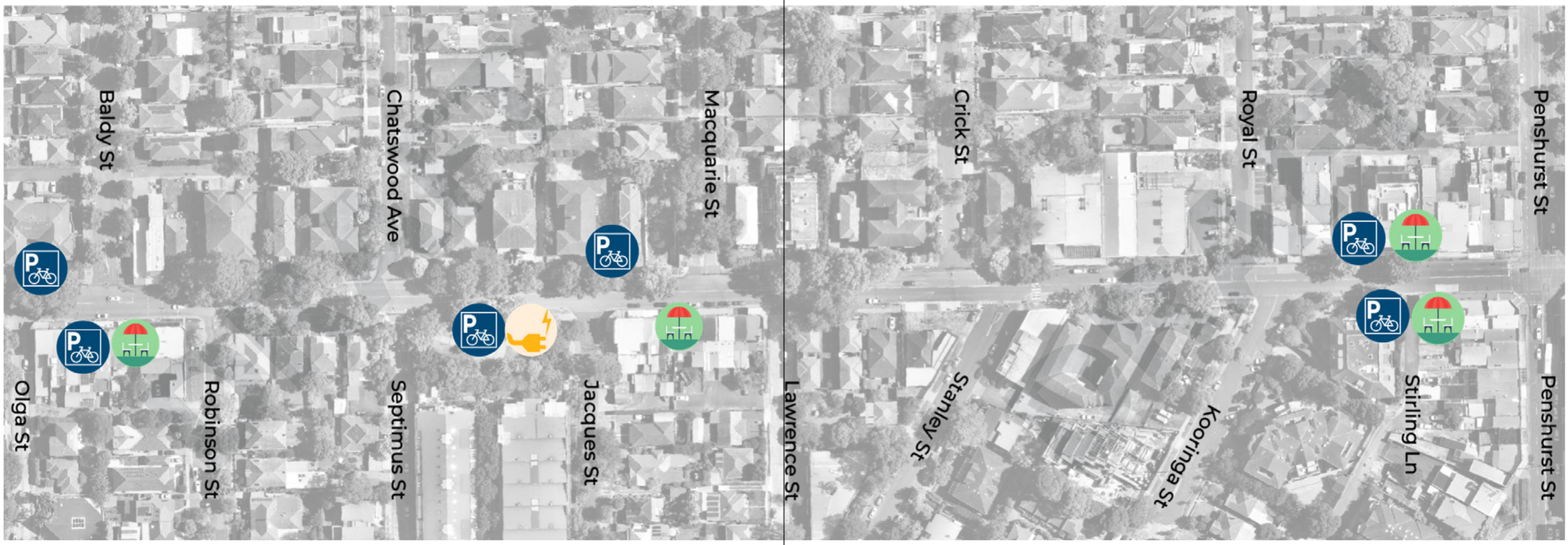


Figure 5-19: Opportunity locations for a thriving street along Victoria Avenue Eastern Section (Source: CrossleyTP, 2024)

5.7 BRINGING EVERYTHING TOGETHER



Figure 5-20: Scenario 1 like Crown Street, Surry Hills (Source: Aspect Studo,2024)

In thinking about the future of Victoria Avenue, we've come up with two possible scenarios. These scenarios are presented for initial discussion only. They are not funded and should there be interest in pursuing them, then further consultation would be required. Both focus on making the street safer, more accessible, and a better place for everyone to enjoy, but each takes a different approach. The first scenario envisions a bicycle-friendly street, similar to Crown Street in Surry Hills. The second scenario introduces a dedicated cycleway, but with some trade-offs.

Scenario 1: Multi-mode boulevard

In this scenario, Victoria Avenue is transformed into a multi-mode boulevard functioning similarly to Crown Street in Surry Hills. The street would become more attractive for pedestrian cyclists. The reduction in speed makes the street safer for cycling without the need for a separate facility and also makes it easier for pedestrians to cross anywhere along Victoria Avenue, reducing the need for dedicated crossing facilities.

To support these slower traffic speeds and signal to drivers that they are entering a different environment, kerb build-outs could be implemented at side streets. These build-outs would enforce slower entry into Victoria Avenue while also providing additional public space that can be enhanced with greenery, seating, bike racks, or outdoor dining options.

At various times of the day or on specific days of the week, this arrangement could be further enhanced to create a shared zone on the western section of Victoria Avenue. This shared space would foster cohesion between the different shops, encouraging people to move across the street, explore, stop, and spend time. Temporary arrangements could also allow pop-up outdoor dining facilities to use street parking spaces during certain times, further activating the space and making it more vibrant.

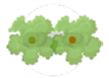
Key benefits



Enhances the public realm by facilitating outdoor dining, creating cohesive public spaces for resting and socialising through the repurposing of selected parking areas and widening of footpaths.



Implementing a 30 km/h speed zone on Victoria Avenue will reduce traffic noise, improve safety, and decrease the need for major infrastructure upgrades.



Utilise existing or proposed concrete spaces, such as refuge islands, traffic islands, and kerb build-outs, for green infrastructure.



Greater flexibility to adapt to changing needs and conditions, enabling modifications for street events.



Figure 5-21: Example of a uni-directional cycleway at Kilda Road Melbourne (Source: Au Social, 2024)

Scenario 2: A dedicated cycleway

In this alternative scenario, a dedicated cycleway is introduced along Victoria Avenue, providing a safe, separated space for cyclists. This cycleway would be part of a broader effort to encourage active transport while maintaining traffic flow for other users. However, implementing the dedicated cycleway would involve modifying street parking arrangements along Victoria Avenue unless the road is converted to a one-way street. This would also mean extending the footpath for outdoor dining could only be achieved by closing the street to traffic.

The dedicated cycleway would require more structured crossing facilities to ensure safe passage for pedestrians across the cycleway and vehicle lanes. To accommodate the cycleway, kerb build-outs and other traffic calming measures would still be necessary, but with a focus on integrating the cycleway into the existing street environment. These build-outs could also incorporate public spaces, such as seating areas and bike racks, enhancing the overall experience for all users.

Key benefits



As people cycling are separated from traffic, the current speed limit on Victoria Avenue can be retained.



A dedicated cycleway provides a safe, separated space for cyclists, encouraging more people to choose cycling as a healthy, sustainable, and accessible mode of transport.



Streets with dedicated cycleways enhance safety not just for cyclists but for all users by reducing conflicts between vehicles and vulnerable road users, leading to fewer crashes.



Greater accessibility for people of all ages and abilities, as a lower level of skill and confidence is needed in a separated environment.

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6. Summary and conclusion

6.1 SUMMARY

In conclusion, the strategies outlined focus on making Victoria Avenue greener, more inviting, and full of life, both day and night. By reducing traffic and encouraging active use of public spaces, the goal is to create a street that's not just for getting from one place to another, but a place people want to spend time in.

The commitment is to offer better transport choices, ensuring everyone has access to reliable and safe options. By calming traffic and adding green spaces, it becomes easier to walk, cycle, and enjoy the area without relying on cars. The focus is also on safety and comfort, making sure Victoria Avenue is a welcoming and accessible place for everyone, whether they live here or are just visiting.

Bringing nature into the street design connects people to the environment, making public spaces more comfortable and boosting mental well-being. This also helps keep the area cool, making it more enjoyable to be outside, whether it's day or night.

In short, the vision is to turn Victoria Avenue into a vibrant, welcoming destination that puts people first. By working together and sticking to the plan, Victoria Avenue will become a street that improves everyone's quality of life, strengthens community ties, and becomes a place people love to visit and spend time in.

6.2 NEXT STEPS

This Movement and Place Plan will pave the way for further evaluation of all opportunities. This will be shaped by feedback from the community on this plan, which will enable stakeholders to have further contributions to the development of Victoria Avenue. These contributions will inform prioritisation of opportunities and further engagement.

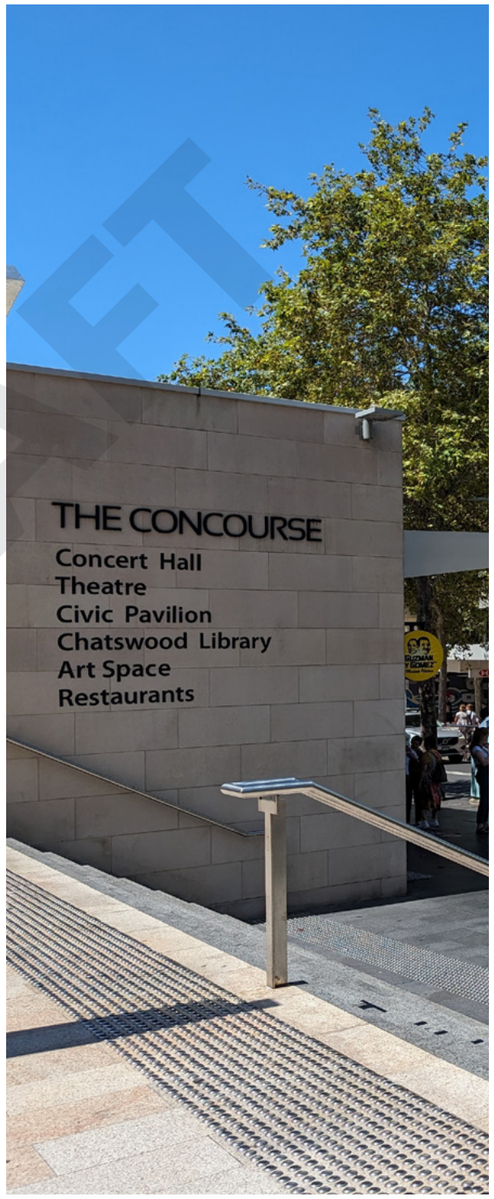

Figure 6-1: The Concourse, Willoughby (Source: CrossleyTP, 2024)

Citation

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