MAYLANDS HEALTHY STREETS

Investigating Opportunities for the Maylands Town Centre

April 2023
v1.5

PJA

Taylor Burrell Barnett

Healthy Streets®

Prepared for

mainroads WESTERN AUSTRALIA

Executive Summary

Healthy Streets Maylands Town Centre

Main Roads WA is investigating the applicability of adopting a Healthy Streets Approach in an effort to boost business, increase safety and improve connectivity for West Australian activity centres. Within these high activity nodes and corridors, there are a range of considerations that must be given equal weight through a decision making process informed by a holistic evaluation method, in addition to conventional transport safety audits and traffic modelling exercises.

The Maylands Town Centre area has been selected as a strategic trial opportunity for its complexity that is indicative of higher activity areas surrounding the historic rail lines of the Perth Metro area.

Healthy Streets is a framework of 10 Indicators which describe what humans need from their streets. When we improve these 10 Indicators we deliver better places for people to live in and thereby improve health and wellbeing.

There are lots of different ways we can change how our streets are designed, managed and used day-to-day to improve the Healthy Streets Indicators. We choose the best options for improving each street by first looking at how the street performs against each Indicator. We can each make our own assessment by going out onto the street, observing how the space is being used and answering the questions in the Healthy Streets Qualitative Assessment Tool.

The Maylands Town Centre is a well connected townsite that serves a broader residential catchment, including the nearby Mount Lawley and Inglewood localities across the rail line and the Maylands Peninsula locality south-east of Guildford Road.

The urban form is low rise, generally no more than double storey with the occasional three storey apartment development.

The measurement of key Maylands Town Centre streets (Whatley Crescent, Seventh and Eight Avenues, Guildford Road and Lyric Lane) has been undertaken using the Healthy Streets Design Check Tool for Australia. The Design Check contains 19 metrics, each one having a direct effect on one or more of the 10 Healthy Streets Indicators.

The metrics are assessed by making use of traffic count data, assessing the streets weakest point, how the street performs as a whole and how buses are catered for within the street. The benefit of undertaking a Healthy Streets Design Check is to enable a comparison between the existing environment and a proposed new environment that the project may ultimately lead to.

A summary of the Healthy Streets Design Check scores are presented on the following page.

Workshops were undertaken with the community to discuss what the Healthy Streets assessment has revealed for each street with a collective view of agreeing key ideas to improve the street environments and thus the healthy street scores.

Key measures to improve the streets included:

- Reducing traffic speed where possible through design.
- Tighter intersection radii.
- More space for walking.
- More places to stop and rest.
- More shade and shelter.

Key Recommendations

The key recommendations of this report are as follows:

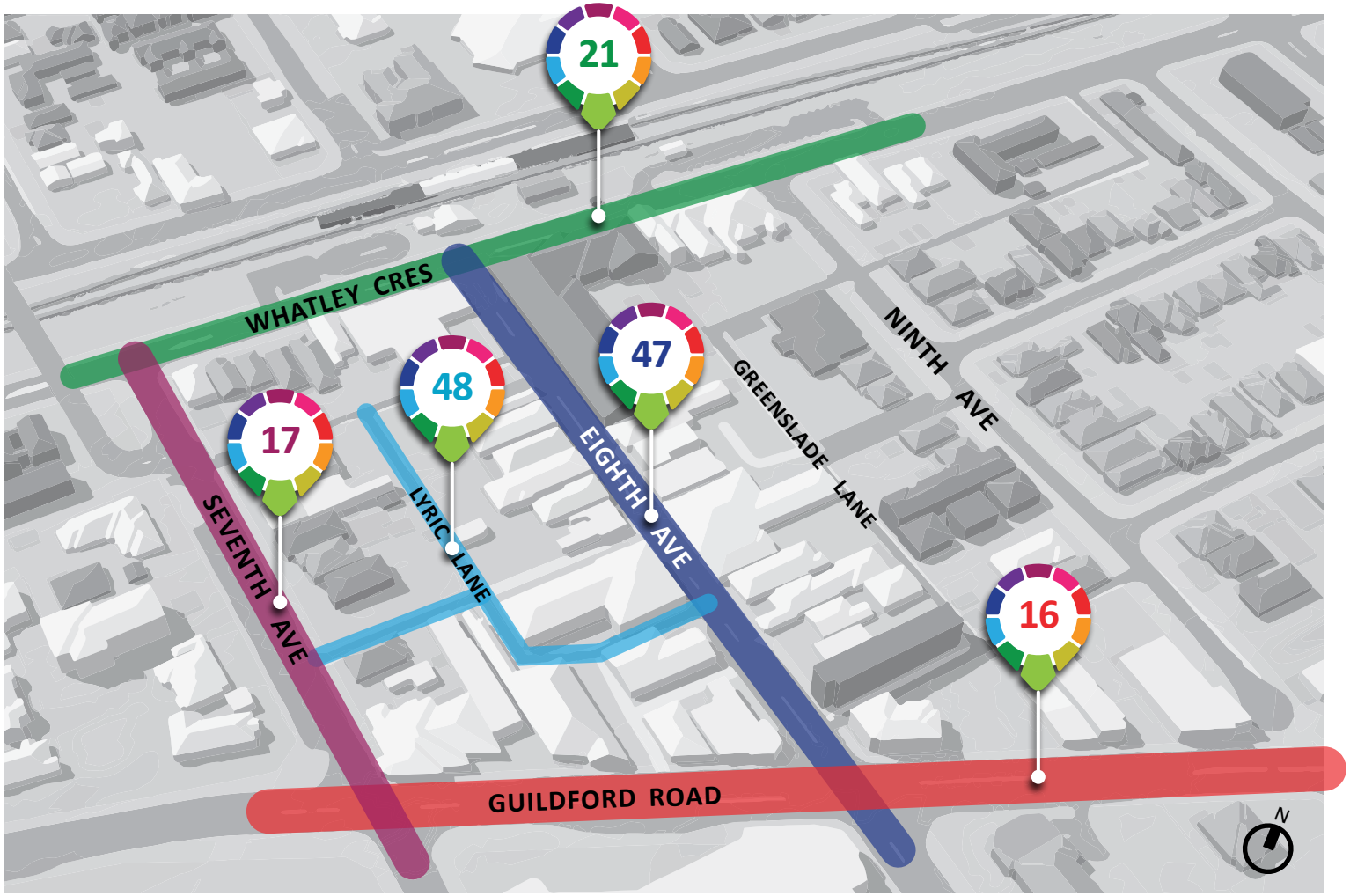
1. Ensure Healthy Streets Practitioners and Designers are leading decision making in the project team.
2. Ensure that the Healthy Streets Design Check is completed at every stage of the project development to ensure the potential to maximise Healthy Streets outcomes are being considered
3. Ensure a comprehensive Healthy Streets Assessment - comprised of the three data sources collected at baseline and post-build review – to demonstrate the success of the project in delivering the Healthy Streets Approach.
4. As a project objective, make a commitment for the Healthy Streets score to increase, not decrease, as a result of spending public funds on public streets.
5. In collaboration with the City of Bayswater, develop a Streetscape Improvement plan that specifies the concept designs, material and landscape palette, lighting strategy, costings and staging, in a manner that complements the City's Urban Design Framework for Maylands.

Healthy Streets Design Check Scores

Results from the five Healthy Streets Design Checks
Scores are out of 100

Street	Score
Eighth Avenue	47
Whatley Crescent	21
Seventh Avenue	17
Guildford Road	16
Lyric Lane	48

A more in-depth look at the issues identified is provided in the body of the Report.



Document Information

Maylands Healthy Streets Assessment Report

Eigth Avenue, Seventh Avenue, Guildford Road, Lyric Lane

Prepared for Main Roads WA

This Report has been commissioned by Main Roads WA as part of the Low Cost Urban Road Safety Program for the purposes of identifying existing issues and developing preliminary ideas.

Main Roads WA is not obliged to undertake all or any of the Report's recommendations. Final street improvement proposals are subject to further design studies, investigation and stakeholder consultation in collaboration with the City of Bayswater.

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Revision	Status	Author	Approved by	Issue Date
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1.2	Issued to Client for Review	Tim Judd (PJA) & Eric Denholm (TBB)	Tim Judd (PJA)	19/02/2022
1.3	Modifications requested by Client	Eric Denholm (TBB)	Tim Judd (PJA)	14/04/2022
1.4	Public Transport	Eric Denholm (TBB)	Tim Judd (PJA)	18/04/2022
1.5	Guildford-Seventh Concept	Eric Denholm (TBB)	Tim Judd (PJA)	15/05/2022

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Introduction

Why Maylands?

Main Roads WA is investigating the applicability of adopting a Healthy Streets Approach in an effort to boost business, increase safety and improve connectivity for West Australian activity centres. Within these high activity nodes and corridors, there are a range of considerations that must be given equal weight through a decision making process informed by a holistic evaluation method, in addition to conventional transport safety audits and traffic modelling exercises.

The Maylands Town Centre area has been selected as a strategic trial opportunity for its complexity that is indicative of higher activity areas surrounding the historic rail lines of the Perth Metro area. Such characteristics include;

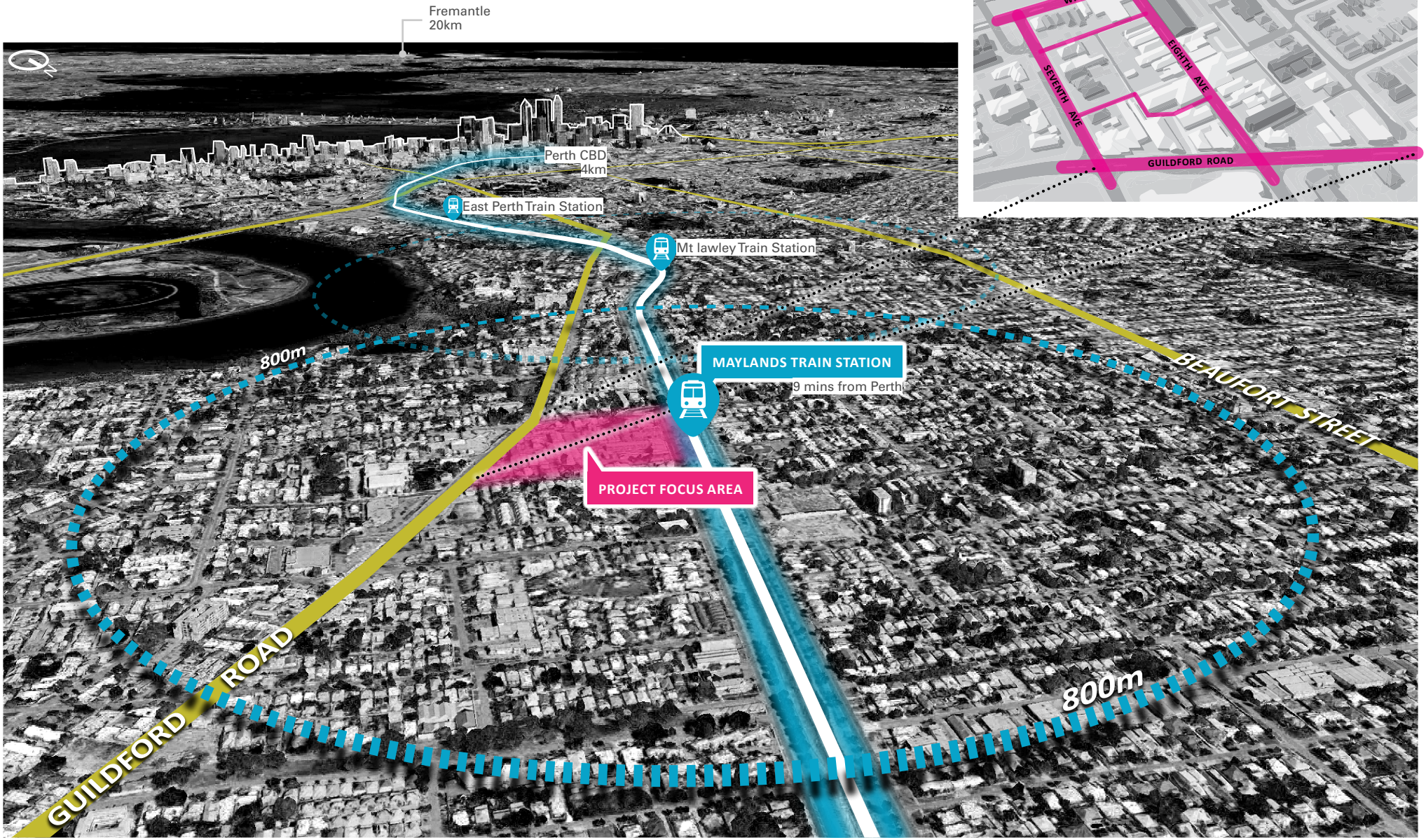
- a high street running perpendicular from the rail line with a direct termination to the Station;
- relatively low land values with prospects for higher density growth in the medium term;
- frequent and high quality public transport (both bus and trains) with good district and regional connectivity;
- limited surface-level car parking and therefore a highly walkable and connected catchment immediately adjacent the Station;
- a higher order arterial (Primary Distributor) State-controlled road defining an edge to the Town Centre; and
- established (and future) local businesses that would benefit from investment that drives foot traffic.

There are various other activity centres within WA that have similar qualities to all or some of the above attributes. The project, therefore, has the ability to provide lessons learned for other centres looking to evolve or improve road safety.

Main Roads WA is attempting to understand if there is any merit in assessing the value and effectiveness of other project interventions through a Healthy Streets lens.

Maylands Town Centre

Context



The Study Area

What is Healthy Streets?

A human-centred framework for embedding public health in transport, public realm and planning

Healthy Streets is a framework of 10 Indicators which describe what humans need from their streets.

When we improve these 10 Indicators we deliver better places for people to live in and thereby improve health and wellbeing.

There are lots of different ways we can change how our streets are designed, managed and used day-to-day to improve the Healthy Streets Indicators. We choose the best options for improving each street by first looking at how the street performs against each Indicator. We can each make our own assessment by going out onto the street, observing how the space is being used and answering the questions in the Healthy Streets Qualitative Assessment Tool (available here).

There is also a more technical assessment that can be done by designers and engineers which focuses on the traffic and the road layout, this is called the Healthy Streets Design Check.

Once we have identified the priorities we can decide how we want to improve the Indicators. What we choose to do will depend on the context of the street, what will be the best use of the available resources and what will be acceptable to people.

The 10 Healthy Streets Indicators

The Healthy Streets Indicators are the foundation of the Healthy Streets Approach. They describe important aspects of the human experience of being on streets that should be considered in the design and evaluation of your project.

Source: Healthy Streets Ltd, Healthy Streets Evaluation Framework

The 10 Healthy Streets Indicators

Easy to cross

Our streets need to be easy to cross for everyone. This is important because people prefer to be able to get where they want to go directly and quickly so if we make that difficult for them they will get frustrated and give up. This is called 'severance' and it has real impacts on our health, on our communities and on businesses too. It is not just physical barriers and lack of safe crossing points that cause severance, it's fast moving traffic too.

Not too noisy

Noise from road traffic impacts on our health and wellbeing in many ways, it also makes streets stressful for people living and working on them as well as people walking and cycling on them. Reducing the noise from road traffic creates an environment in which people are willing to spend time and interact.

Things to see and do

Street environments need to visually appealing to people walking and cycling, they need to provide reasons for people to use them – local shops and services, opportunities to interact with art, nature, other people.

Shade and shelter

Shade and shelter can come in many forms – trees, awnings, colonnades – and they are needed to ensure that everyone can use the street whatever the weather. In sunny weather we all need protection from the sun, in hot weather certain groups of people struggle to maintain a healthy body temperature, in rain and high winds we all welcome somewhere to shelter. To ensure our streets are inclusive of everyone and welcoming to walk and cycle in no matter the weather we must pay close attention to shade and shelter.

People choose to walk and cycle

We all need to build regular activity into our daily routine and the most effectively to do this is to walk or cycle for short trips or as part of longer public transport trips. People will choose to walk and cycle if these are the most attractive options for them. This means making walking and cycling and public transport use more convenient, pleasant and appealing than private car use.

People feel relaxed

The street environment can make us feel anxious – if it is dirty and noisy, if it feels unsafe, if we don't have enough space, if we are unsure where to go or we can't easily get to where we want to. All of these factors are important for making our streets welcoming and attractive to walk, cycle and spend time in.

Everyone feels welcome

Streets must be welcoming places for everyone to walk, spend time and engage with other people. This is necessary to keep us all healthy through physical activity and social interaction. It is also what makes places vibrant and keeps communities strong. The best test for whether we are getting our streets right is whether the whole community, particularly children, older people and disabled people are enjoying using this space.

Places to stop and rest

Regular opportunities to stop and rest are essential for some people to be able to use streets on foot or bicycle because they find travelling actively for longer distances a challenge. Seating is therefore essential for creating environments that are inclusive for everyone as well as being important for making streets welcoming places to dwell.

People feel safe

Feeling safe is a basic requirement that can be hard to deliver. Motorised road transport can make people feel unsafe on foot or bicycle, especially if drivers are travelling too fast or not giving them enough space, time or attention. Managing how people drive so that people can feel safe walking and cycling is vital.

People also need to feel safe from antisocial behaviour, unwanted attention, violence and intimidation. Street lighting and layout, 'eyes on the street' from overlooking buildings and other people using the street can all help to contribute to the sense of safety.

Clean air

Air quality has an impact on the health of every person but it particularly impacts on some of the most vulnerable and disadvantaged people in the community – children and people who already have health problems. Reducing air pollution benefits us all and helps to reduce unfair health inequalities

Source: healthystreets.com

Complementary Projects

Direct and Indirect Influences to Consider

MRWA Low Cost Urban Road Safety Program

A substantial proportion of all crash risks, including fatalities and serious injury crashes, happen on local streets and intersections, which are funded and managed by Local Governments. Main Roads WA data shows that approximately 3,500 crashes occured on local streets between 2015 and 2019.

To improve the safety of these roads for local communities, the State Government is implementing a four-year Low Cost Urban Road Safety Program (Low Cost URSP). The program will deliver treatments to local roads, on an area-wide or whole-of-street basis, to reduce crash risks for people driving, walking and cycling.

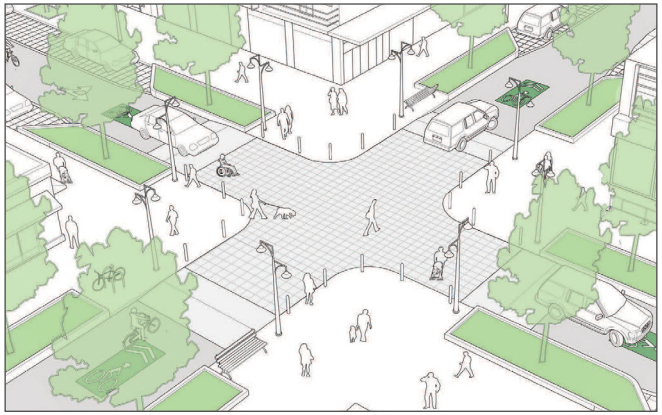
Main Roads WA has been working in collaboration with Local Government to implement the program. Typically, the arrangement for funds sees Main Roads WA covering all aspects of design and construction costs, via reimbursement, while Local Government will be responsible for a range of activities, including;

- community consultation;
- design drawing approvals;
- procurement of works;
- delivery of treatments (project management);
- evaluation (data collection pre and post treatment) and reporting; and
- ongoing maintenance.

It is Main Roads WA responsibility to identify and prioritise projects each year.

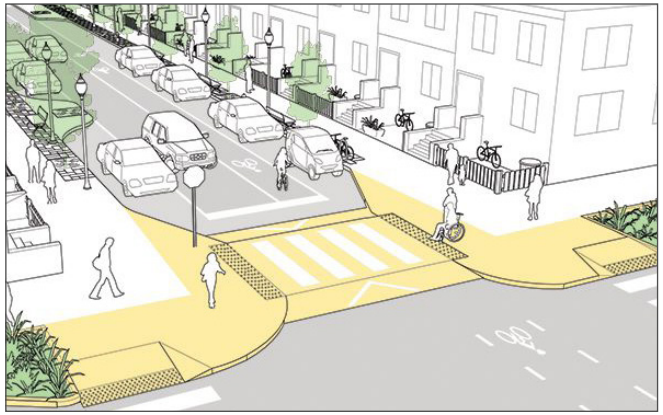
As the program's safety aspects need to consider people driving, walking and cycling, Main Roads WA is testing the use of the Healthy Streets® framework, including the Design Check Tool for Australia, to ensure the evaluation of existing and proposed conditions address basic human needs on local streets.

Example of Design Treatments That May be Considered



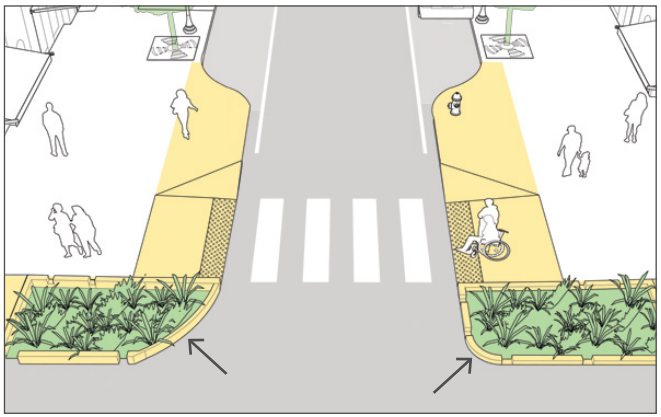
Raised Intersections

Reduces crash severity and frequency by creating a safe, slow-speed intersection. Reinforces priority for people walking and busy places.



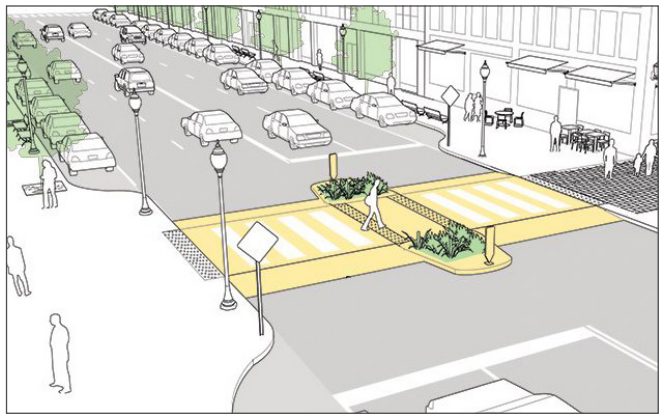
Side Street Continuous Footpath Treatment

Slows approaching vehicles and turning vehicles and creates a safer crossing point for people walking.



Tighter Kerb Radii

Tighter kerb radii ensures vehicles turning do so cautiously, with the added benefit of ensuring footpaths are straight.



Mid-Block Crossing

Placed on known desire lines or key near key destinations. Reduces distances people need to walk to safely cross (particularly on long blocks).

Images Source: NACTO Urban Street Design Guide

METRONET Rail Expansion and Level-Crossing Removal

On 15 April 2022, the State Government closed an existing level crossing at Caledonian Avenue for all traffic (including people walking and cycling).

This decision was made for road safety and efficiency reasons, having consideration for the additional train services that would use the Midland Railway Line once the Perth Airport Link (opened in 9 October 2022) and the future Ellenbrook rail line (to open late 2024) begin operating.

As the level-crossing removal has reduced opportunities for people to cross the rail line, improvements to the Maylands Station underpass crossing are being investigated. Improving access to Maylands Station through the Maylands town centre will ultimately improve the economic vitality of this local centre.

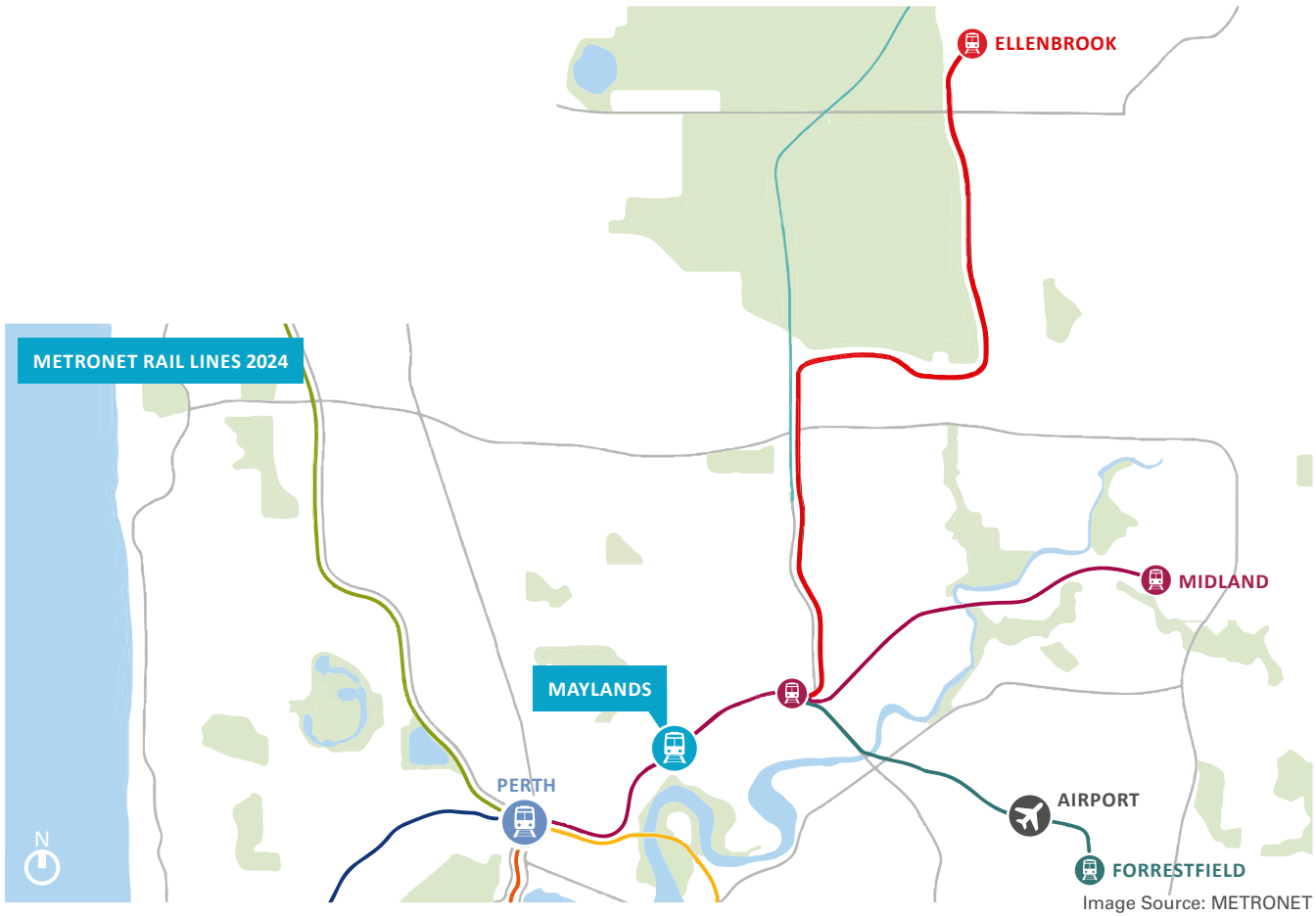


Image Source: METRONET

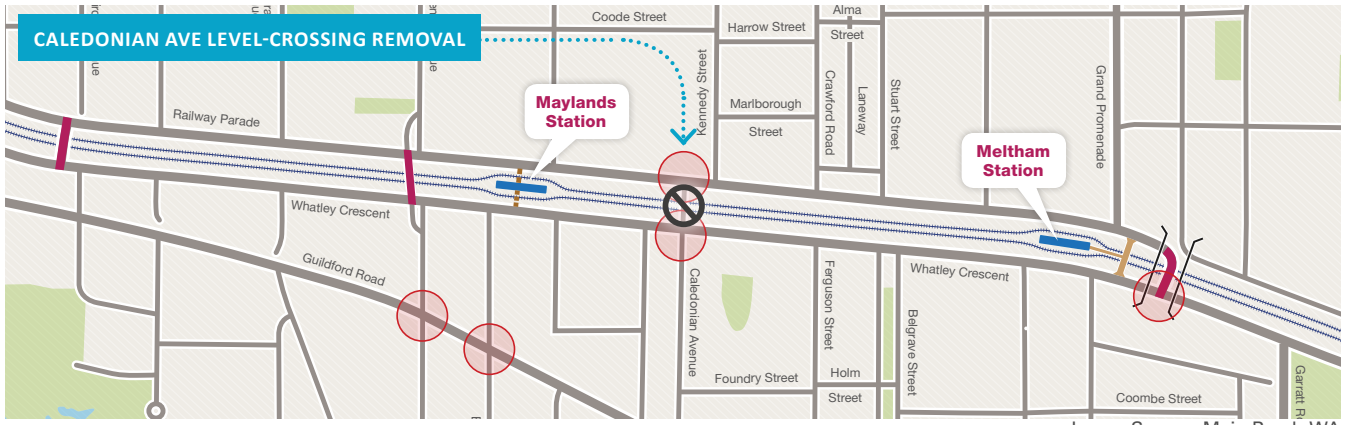


Image Source: Main Roads WA

Maylands Road Improvements - MRWA

As part of the Caledonian Avenue level crossing removal project, Main Roads WA is embarking on wider changes to the road network, including safety and efficiency improvements to the State-controlled Guildford Road, and local traffic and parking improvements for the benefit of the Maylands Town Centre. In addition, the Public Transport Authority is investigating options to bring buses into the town centre, providing an important link to the train station.

A Community Reference Group (CRG) has been formed comprising local business representatives and residents in and around the precinct. The purpose of the CRG is to provide feedback on planned changes and to better understand impacts and how to best mitigate these.

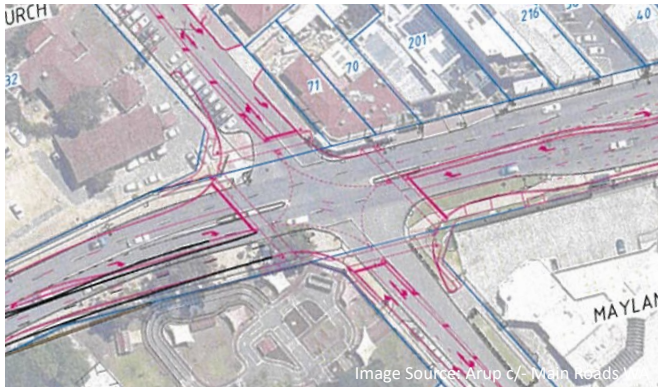
As part of the early assessment work, Main Roads WA has prepared some preliminary cross-sections for Seventh Avenue and Eighth Avenue and an indicative design for the intersection of Seventh Avenue and Guildford Road. These preliminary designs are subject to modifications pending the results of an area wide traffic model currently being prepared.

This report assists in demonstrating some of the impacts of the proposed road improvements in their current form and provides suggestions to achieve higher quality outcomes for people walking, cycling and catching public transport.

CRG members participated in a Healthy Streets Workshop on 17 November 2022 as part of this work.

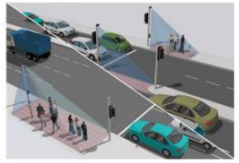
CNR SEVENTH AVENUE AND GUILDFORD ROAD - EXISTING

PROPOSED CONCEPT

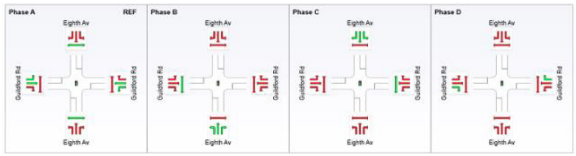


GUILDFORD ROAD AND EIGHTH AVENUE PROPOSED SIGNAL IMPROVEMENTS

Potential Pedestrian Sensors



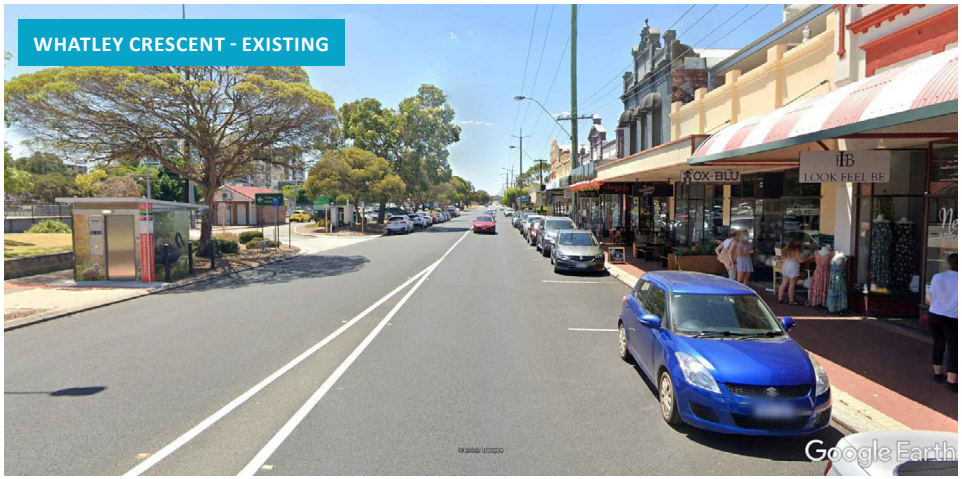
Potential Traffic Signal Phasing

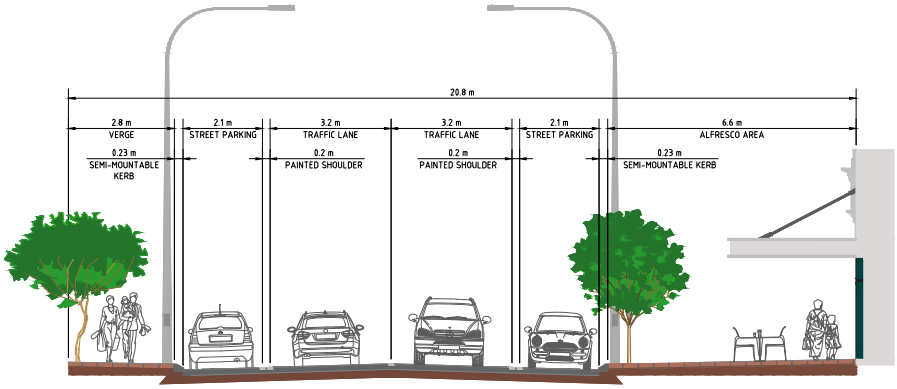


- Proposed conversion of the exclusive pedestrian phase at the intersection into parallel crossings with timed arrow control to reduce pedestrian and traffic delays.
- Potential new technology to extend crossing times (when pedestrians are still on the road) and reduce crossing times (when pedestrians are not on the road) to be explored.
- Potential turning arrows for all right turning traffic movements.
- Pedestrian ramps to be upgraded.
- Interface with the proposed Woolworths/Apartments development to be worked through.
- Construction timeframes tied to Guildford Rd/Seventh Ave works.

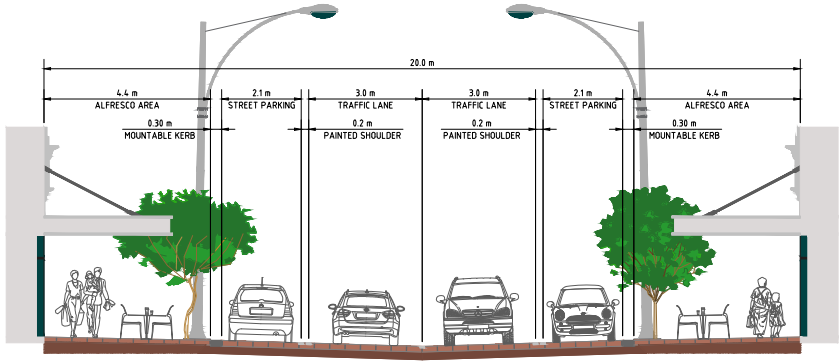
Image Source: Main Roads WA

Possible Cross Sections





TYPICAL CROSS SECTION - PROPOSED WHATLEY CRESCENT
1:50



TYPICAL CROSS SECTION - PROPOSED EIGHTH AVENUE
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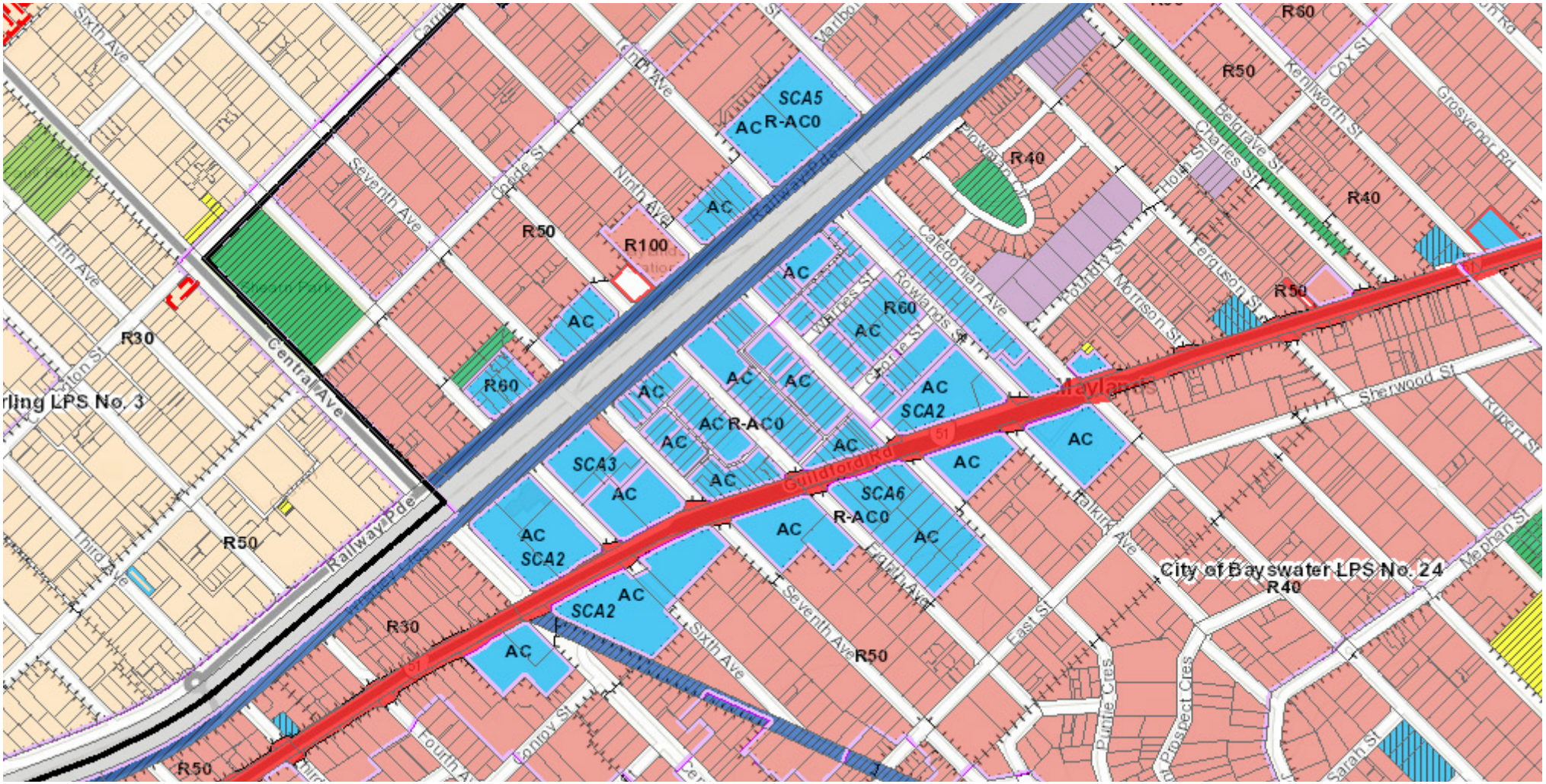
Images Source: Arup c/- Main Roads WA

Spatial Assessment

Context, Land Use and Key Attractors

Zoning



Local Character

A snapshot of Maylands Town Centre

'Newer' medium-rise shop top housing - Eighth Avenue

Historic 'high street' double storey built form - Whatley Crescent

Commuters heading east from Maylands Train Station after work - Eighth Avenue

Space for people along Eighth Avenue adjacent shops and other local business

New medium-rise apartments with access to Greenslade Lane

Single storey shops fronting Eighth Avenue

Public art near intersection of Eighth and Whatley

Local Attractions

Destinations for people walking and cycling

Shopping and Retail

1 Fashion and coffee shops along Whatley Crescent


4 Proposed Woolworths Supermarket and Apartment Building (cnr Eighth Avenue and Guildford Road)

7 IGA supermarket - corner of Whatley Crescent and Eighth Avenue

Entertainment, Food and Beverage

2 Firefly Gifts

5 Star Swiss Patisserie; Milk'D and Liquor Barons beyond

8 Seasonal Brewing Co.


9 Roxy Lane Theatre


10 Chapels Fine Teas

Parks and Community


3 The RISE Community Centre and Maylands Town Hall

6 Roxy Lane Community Garden


11 Former Presbyterian Church


12 Our Lady Queen of Martyrs Catholic Church

Urban Structure

Destinations for people walking and cycling

Land Use and Built Form

The Maylands Town Centre is a well connected townsite that serves a broader residential catchment, including the nearby Mount Lawley and Inglewood localities across the rail line and the Maylands Peninsula locality south-east of Guildford Road.

The urban form is low rise, generally no more than double storey with the occasional three storey apartment development.

Eighth Avenue runs perpendicular to the Maylands Train Station and has traditionally been the focus of business activity. In more recent times, business activity has picked up toward the north-eastern side of Whatley Crescent.

The mix of buildings along Whatley Crescent and Eighth Avenue have a good relationship to the street, allowing passing trade in the form of people walking.

As land values increase over time, it is expected that development investment will be attracted to the Town Centre given its close proximity to the Perth CBD and easy access to employment in Midland and other industrial and service commercial hubs.

The City of Baywaster's existing Urban Design Framework was prepared in 2009 primarily for the purpose of supporting a rezoning of land within the Town Centre, which has facilitated some new apartment development. The Framework allows for up to five storeys in the Town Centre, and focuses on maintaining Maylands as a medium-rise centre with a comfortable human scale.

Connectivity Assessment

Cycling

Long Term Cycle Network

Primary Routes

Mainly focused on high demand corridors that connect major destinations of regional importance. They form the spine of the cycle network and are often located adjacent to major roads, rail corridors, rivers and ocean foreshores. Primary routes are vital for all sorts of bike riding, including medium or long-distance commuting / utility, recreational training and tourism trips.

Secondary Routes

Moderate level of demand, providing connectivity between primary routes and major activity centres such as shopping precincts, industrial areas or major health, education, sporting and civic facilities.

Local Routes

Lower level of demand providing critical access to higher order routes, local amenities and recreational spaces. Predominantly located in local residential areas, local routes often support the start or end of each trip, and must therefore cater for the needs of users of all ages and abilities.

The Principal Shared Path that runs parallel to the rail corridor connects the Town Centre with the broader region.

Eighth Avenue is planned to be an important cycling link, connecting residents from the Maylands Peninsula with the Town Centre and Rail Station. Traffic calming is therefore important to create a safe speed environment to accommodate people cycling of all ages and abilities.

Image Source: Department of Transport

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Maylands Train Station Access and Statistics

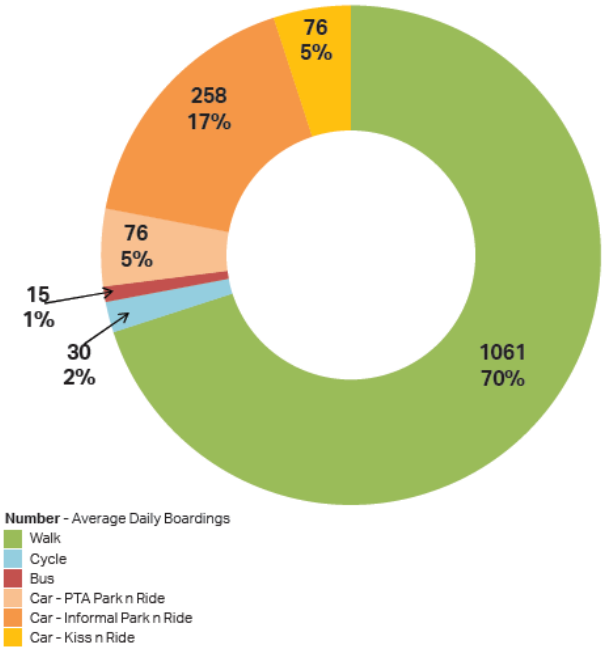
2016 Average Daily Boardings

1,516

Typical Weekday Morning Travel Times, Maylands Station to Perth Station (CBD)

- 08 Minutes by Rail
- 13 Minutes by Bike
- 17 Minutes by Car
- 21 Minutes by Bus

Existing Mode Share



Existing people walking and cycling crossing numbers at Caledonian Avenue level crossing

User Group	Daily Average Weekday Users	Ped Xing Users	Peds vs Bicycles	Total Users
Pedestrians	148	302	159	393
Mobility assisted pedestrians	11			
Bicycles (using pedestrian crossing)	143		234	
Bicycles (using road level crossing)	91	-		

2031 Forecast Daily Boardings

2,515

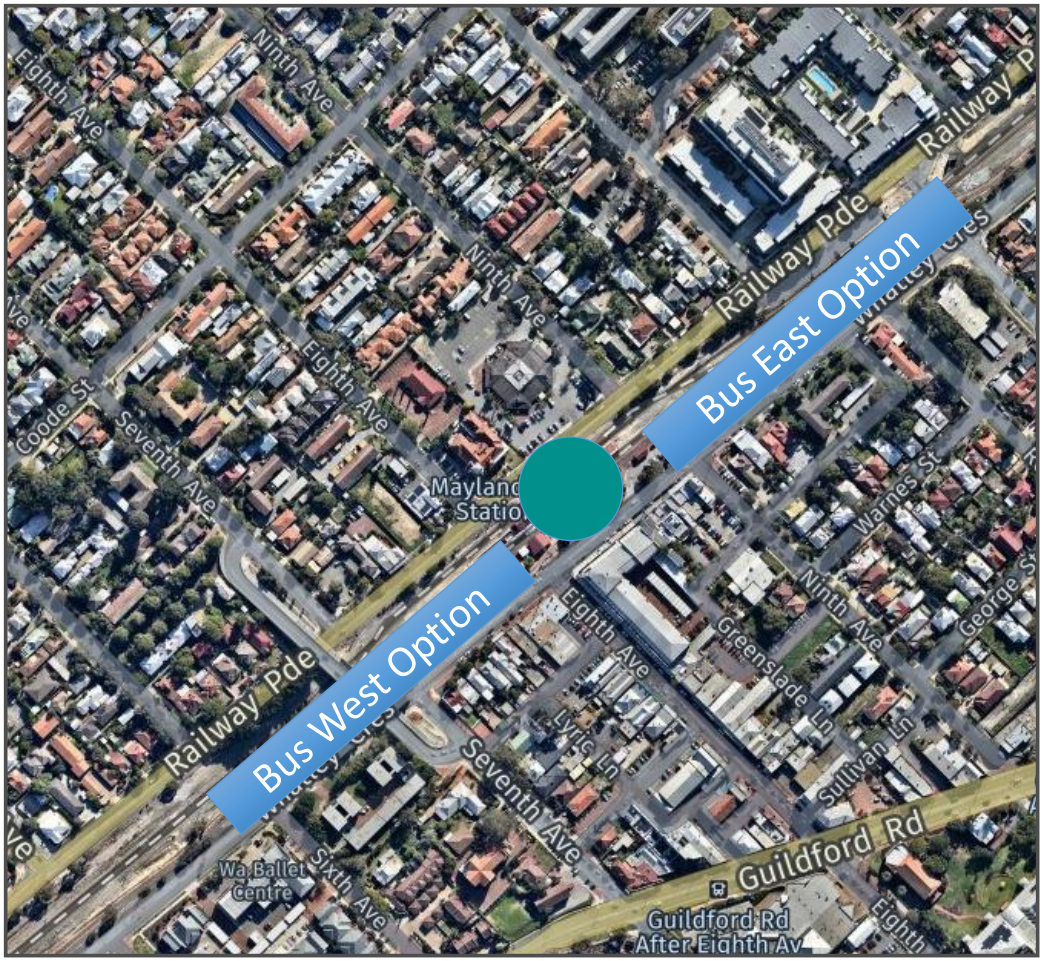
- Daily boardings have already increased as a result of the Airport Line opening on 9 October 2022 and are expected to continue to rise one the Morely-Ellenbrook line becomes operational.

Data Source: Public Transport Authority

Public Transport

District and Regional Connectivity

Maylands Bus Interchange - Options currently being considered



Future Bus Planning

Facility designed for future bus network with improved local connections.

Preliminary assessment by the Public Transport Authority has so far looked at two possible options for a future Bus Transfer Station, either west or east of the Maylands Train Station.

The Public Transport Authority has identified there are some limitations for bus movements along Seventh Avenue.

Changes to bus routes could be considered as part of a separate area wide traffic modelling exercise.

Key requirements for Bus Interchange (from PTA)

- 6 bus stands (3 layover)
- Displaced PnR relocated
- Pedestrian access enhanced
- Minimal impact to:
  - on street parking
  - existing mature trees
  - existing traffic
  - existing and future PTA assets
- Cyclist access maintained
- Built within PTA land
- Compliance with rail safety

Public Transport

District and Regional Connectivity

Eighth Avenue view is terminated by the Maylands Train Station entrance, providing a strong axis and connection for people walking and cycling through the town centre

View looking back to the Train Station on Whatley Crescent from the north-east, with the potential location for the Bus Transfer Staion East to the right of the road pavement

Access to the Station for people cycling is by way of ramps adjacent the main entrance

View looking back to the Train Station on Whatley Crescent from the south-west, with the potential location for the Bus Transfer Staion West to the left of the road pavement

Vehicle Movement

Traffic behaviour and volume

Traffic Counts: Before and After Level Crossing Closure

- Before counts completed in early December 2021.
- After counts undertaken in July 2022 (some impact by King William Street temporary closure).
- Guildford Road carries over 30,000 vehicles per day, and will continue to serve as an important connector from the Perth CBD to the broader region.

In addition to the traffic data, Google can be used to gauge congestion issues. Google collects traffic data from tracking smartphone movements from users who have toggled their location to 'on' in the Google Maps application.

Within the Google traffic map, the three general categories are: Green – No typical traffic delays, Orange – medium typical traffic delays and Red – typically experiences traffic delays.

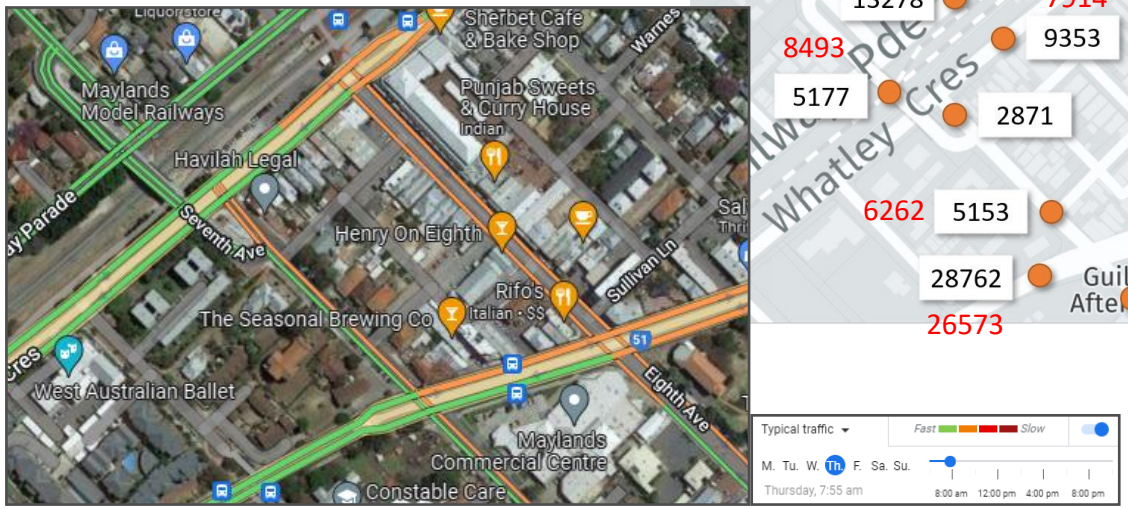
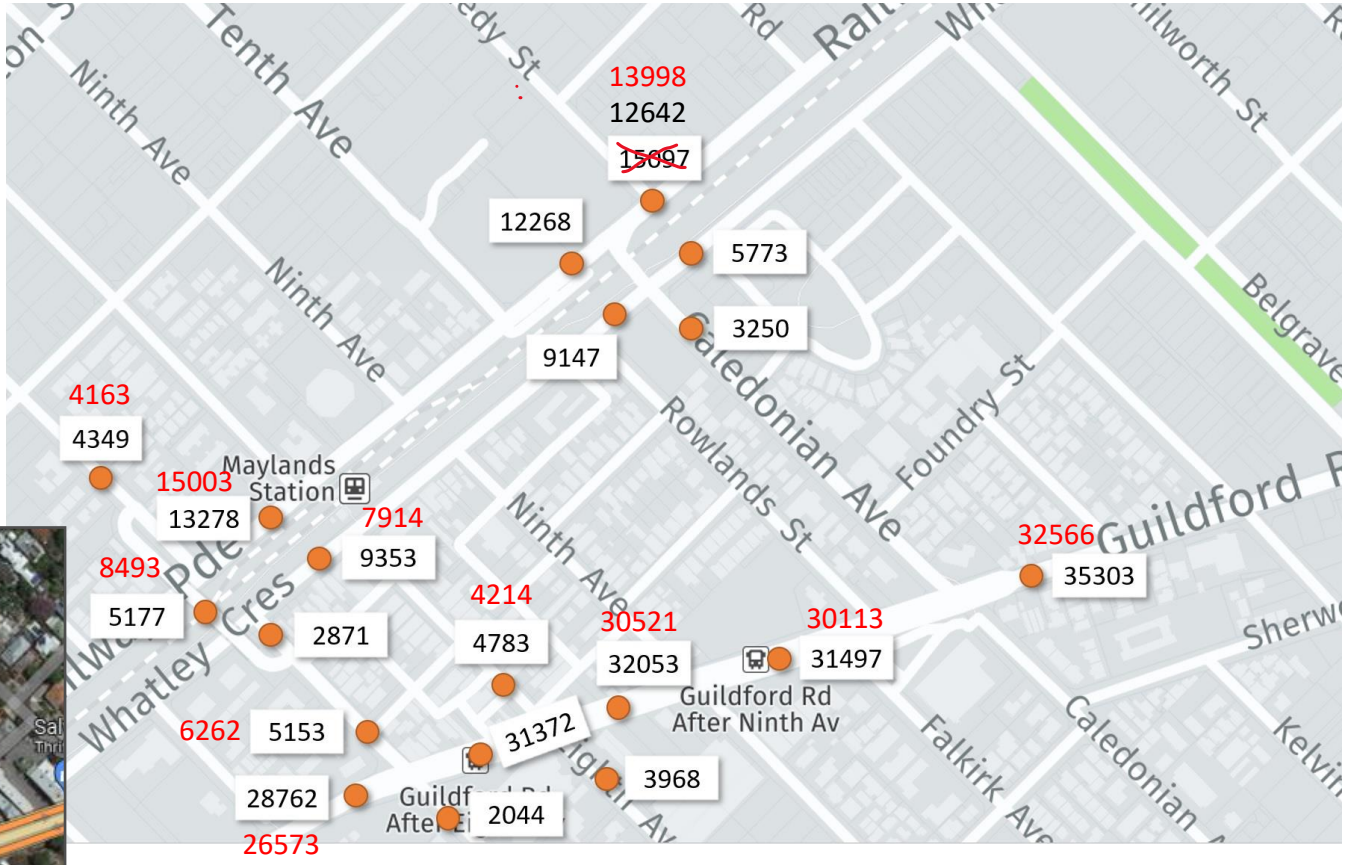


Image Source: Google Maps

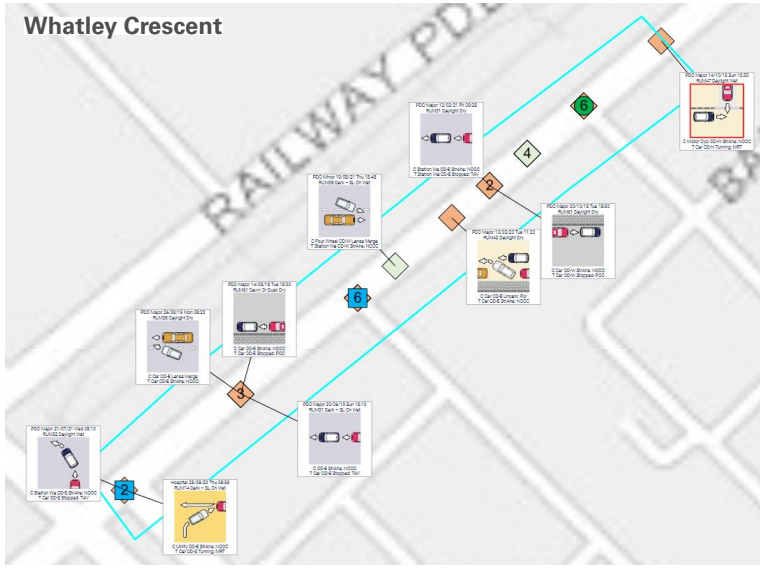


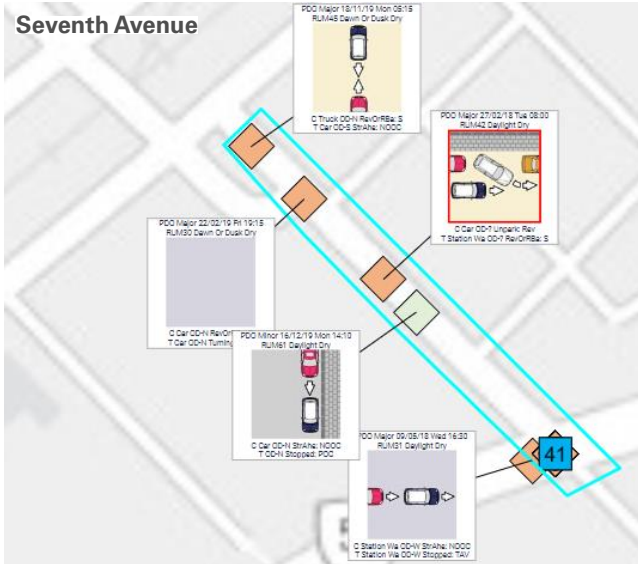
Data Source: Main Roads WA

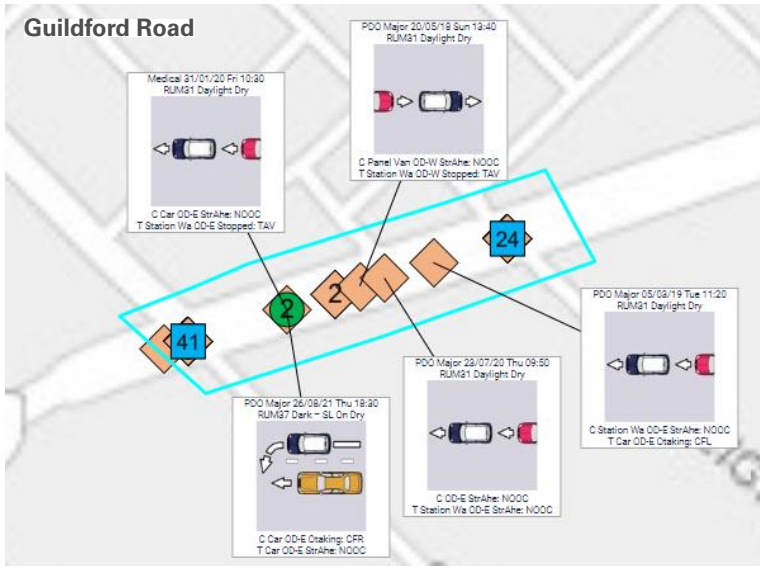
Crash Data

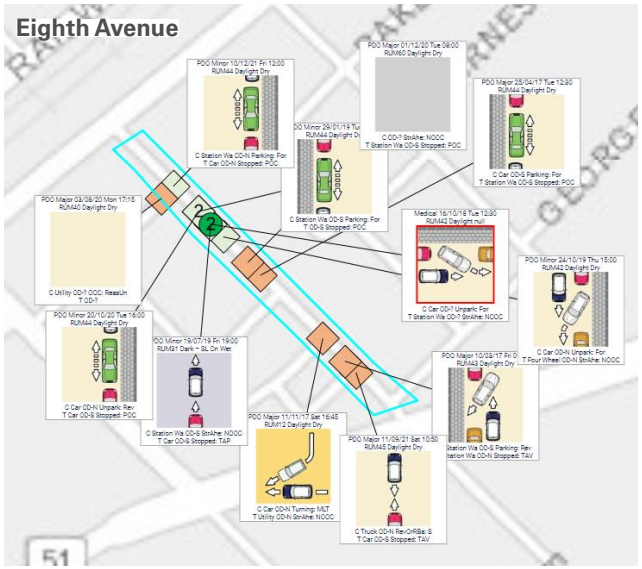
2017-2021

- Whatley Crescent observations – majority of crashes are occurring at intersections due to all movements permitted into and out of the intersections. Three crashes are as a result of vehicles manoeuvring into/out of on-street car parking spaces.
- Seventh Avenue observations – majority of crashes (41) have occurred at the intersection with Guildford Road, which is the main reason for the intersection being proposed for signalisation. Two crashes are as a result of vehicles manoeuvring into/out of on-street car parking spaces.
- Guildford Road observations - majority of crashes (41) have occurred at the intersection with Seventh Avenue, with 24 crashes occurring at the intersection with Eight Avenue.
- Eight Avenue observations – of the 12 recorded crashes, seven are as a result of vehicles manoeuvring into/out of on-street car parking spaces.









Data Source: Main Roads WA Crash Map

Local Street Level Assessment

Maylands Town Centre already has high quality streets, with buildings meeting the street and space available for people

...But a closer look reveals many issues that discourage access and business activity

<50% shade cover

Less than 50% continuous shade cover on average in Maylands Town Centre streets, and practically no shade for people cycling on the street pavement

(exception: northern side of Eighth Avenue achieves 88% shade cover)

+10km/h turning speeds

Many side street intersections have overly large geometry that allow vehicles to travel with speed around corners, with little priority for people walking

0 space for cycling

No dedicated space for cycling anywhere in the town centre. Traffic speeds too high (+30km/h) to safely accommodate sharing of street pavement with people cycling.

1.5m space for walking

Typical footpath width of 3m is often reduced by business signs, street furniture and alfresco areas meaning continious clear walking space is uncomfortable and at times unsafe

The Healthy Streets Design Check Tool

The measurement of key Maylands Town Centre streets has been undertaken using the Healthy Streets Design Check Tool for Australia.

The Design Check contains 19 metrics, each one having a direct effect on one or more of the 10 Healthy Streets Indicators.

The metrics are assessed by making use of traffic count data, assessing the streets weakest point, how the street performs as a whole and how buses are catered for within the street. These scoring categories are presented below.

How are the 19 Design Metrics Measured?

- Metrics 1-3 Using traffic count data
- Metrics 4-12 Find the weakest point
- Metrics 13-18 The whole street
- Metric 19 Only applicable where buses go

The benefit of undertaking a Healthy Streets Check is to enable a comparison between the existing environment and a proposed new environment that the project may ultimately lead to. Other benefits include:

- Helps designers to think about the whole street/precinct and the human experience, shifting the focus from individual modes and movement.
- Facilitate conversation between stakeholders about designs.
- Provides an evidence-based score for decision makers to understand how well a street serves the needs of its users.

Each metric is given a score of 0-3, based on detailed guidance. a '0' score represents a design element that is not meeting basic human needs and is a critical safety issue.

The final Healthy Streets score is out of 100. A score of 60 is considered to be a street that is meeting most people's basic needs. A score above 80 is a welcoming space for most people.

This table demonstrates how each of the design metrics contribute to the overall Healthy Streets score.

Healthy Streets®

Design Check Metric	Healthy Streets **Indicators**									
	Everyone feels welcome	Easy to cross	Shade and Shelter	Places to stop and rest	Not too noisy	people choose to walk and cycle	People feel safe	Things to see and do	People feel relaxed	Clean sir
1 Traffic speed	●	●			●	●	●		●	●
2 Volume of motorised Traffic	●	●			●	●	●		●	●
3 Mix of vehicles	●	●			●	●	●		●	●
4 Conflict between cycles and turning vehicles	●					●	●		●	
5 Turning speeds at side-street intersections	●	●				●	●		●	
6 Ease of crossing mid-block	●	●				●	●		●	
7 Priority of crossing at intersections	●	●				●	●		●	
8 Quality of footpath	●					●			●	
9 Space for walking	●			●		●	●		●	
10 Appropriate seperation of people walking from traffic	●				●	●	●		●	
11 Space for cycling	●			●		●	●		●	
12 Lighting	●					●	●		●	
13 Availability of drinking water	●			●		●	●	●	●	
14 Public seating	●			●		●		●	●	
15 Cycle parking	●			●		●			●	
16 Shade for walking	●		●			●		●	●	
17 Shade for cycling	●		●			●		●	●	
18 Reducing through traffic	●	●			●	●			●	
19 Bus Stops	●		●	●		●			●	

Healthy Streets Design Check Scores

Results from the five Healthy Streets Design Checks
Scores are out of 100

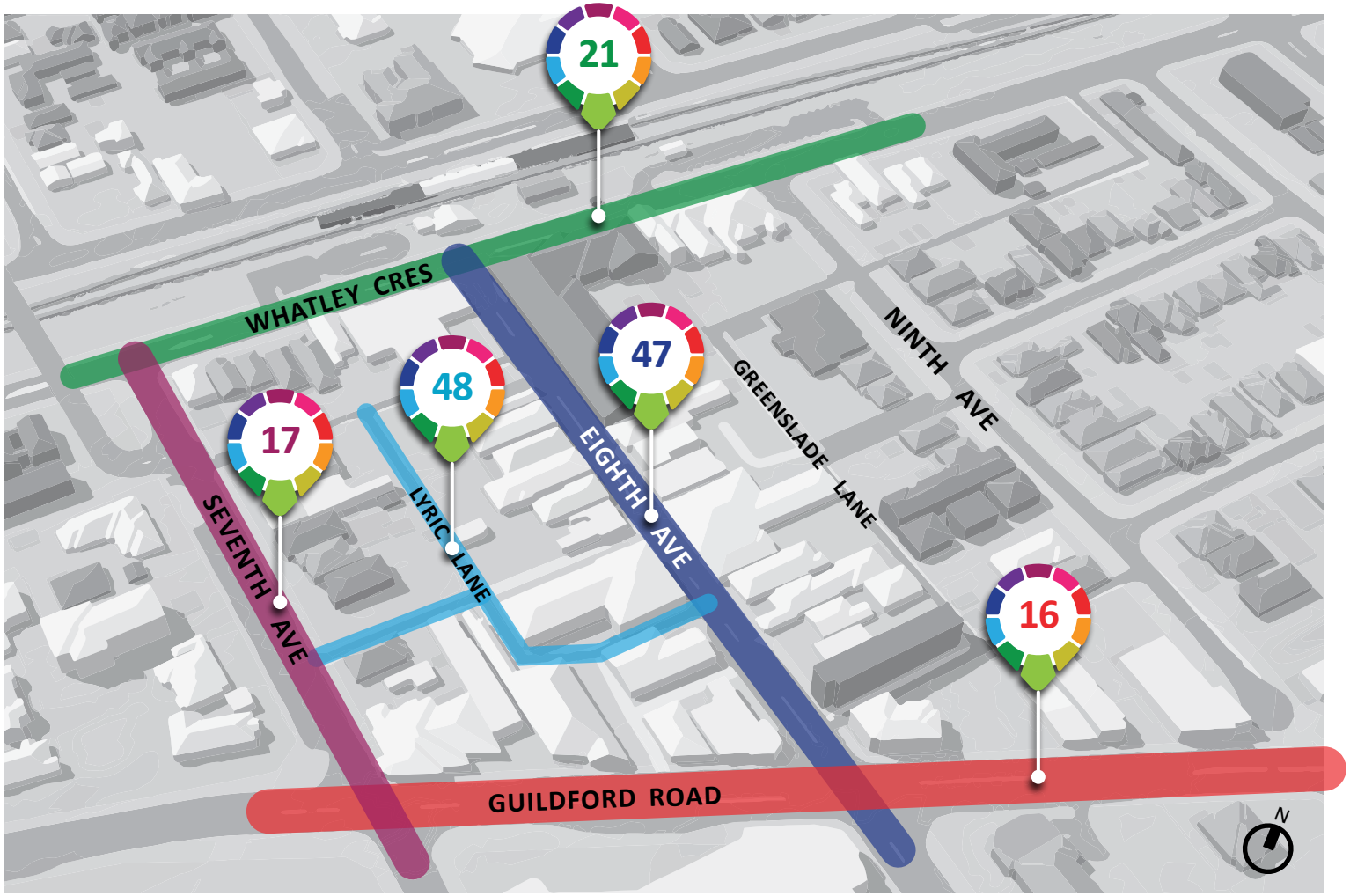
Street	Score
Eighth Avenue	47
Whatley Crescent	21
Seventh Avenue	17
Guildford Road	16
Lyric Lane	48

Ninth Avenue and Greenslade Lane are not included in this scope of work.

The age of building stock in this image is represented by tone. The darker the colour, the newer the building is. This helps understand where the majority of character buildings are (shown in a lighter colour).

A more in-depth look at the issues identified follows.

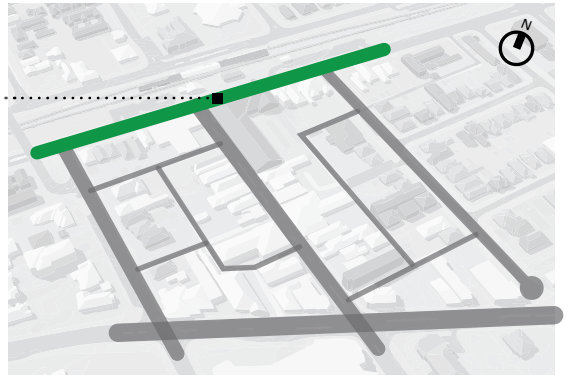
For scoring of the proposed concepts provided by Main Roads WA refer to Appendix C.

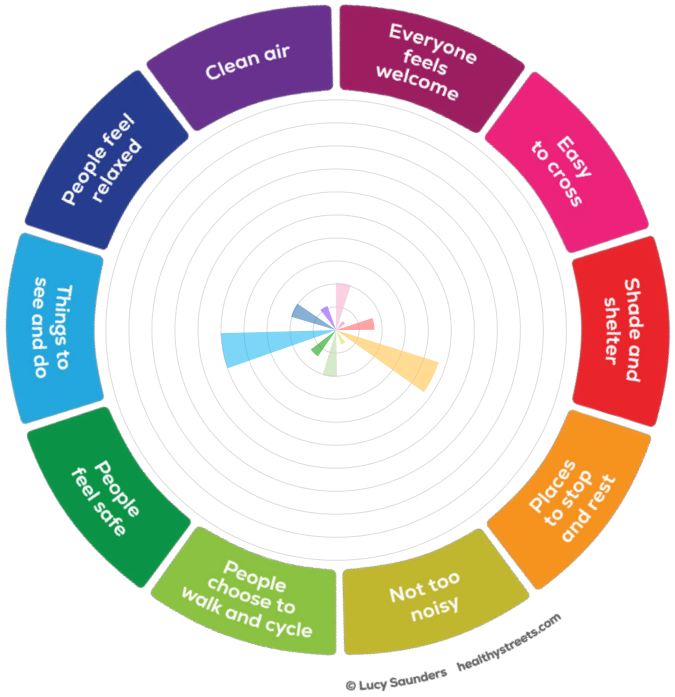


Base Plan Source: City of Bayswater Online Maps

21 Whatley Crescent

Design Check Key Findings





Whatley Crescent	Existing Layout Score
Healthy Streets Score	**21**
Everyone feels welcome	20
Easy to cross	5
Shade and shelter	17
Places to stop and rest	47
Not too noisy	7
People choose to walk and cycle	20
People feel safe	14
Things to see and do	50
People feel relaxed	20
Clean air	11
Total no. of '0' Scores (out of 19 metrics)	11

What is good along this street:

- Availability of public drinking water
- Availability of public seating
- Cycle parking

What is not so good along this street:

- Traffic speed – 60km/h
- Traffic volume
- Mix of vehicles
- Turning speed at intersections
- Midblock crossings
- Priority of crossings (side streets and midblock)
- Separation between people walking and traffic
- Space for walking
- Space for cycling
- Shade for walking
- Lighting
- Bus stop facilities

21 Whatley Crescent

Design Check Key Findings

No step free access to bicycle parking

Footpath width squeezed by overly large road pavement

High traffic areas require a wider footpath so two people can walk side by side and a wheelchair or mobility scooter can pass in the opposite direction

The approach toward Eighth Avenue when driving allows vehicles to travel through the intersection with too much speed and does not give proper indication of the importance of Station to Town Centre

21 Whatley Crescent

Design Check Key Findings

Distance over intersection too large (below 7m is preferred) Ninth Avenue

Crossing experience a lot harder than it needs to be

In order for bicycle parking to be accessible to all people who cycle, there must be no level differences near the parking

Walking across side street intersections takes too long and exposes people to vehicles turning at speed: Ninth Avenue

21 Whatley Crescent

Design Check Key Findings

Power poles and other clutter interrupt the footpath making it difficult to navigate, particularly in busy times

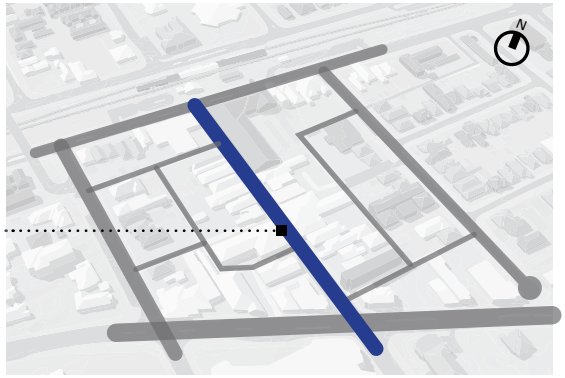
The distance between the parked car on the south and kerb-line on the north is 11.6m. There is space here for a wider footpath

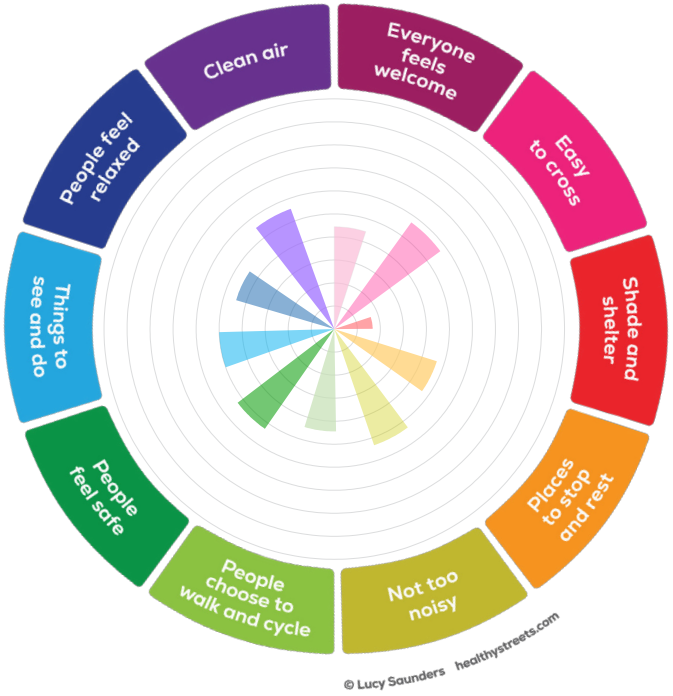
Pram ramp is slightly off the desire line, distance across is 9m

The footpath is squeezed and cluttered by shop owner signs, street signs and power poles

48 Eighth Avenue

Design Check Key Findings





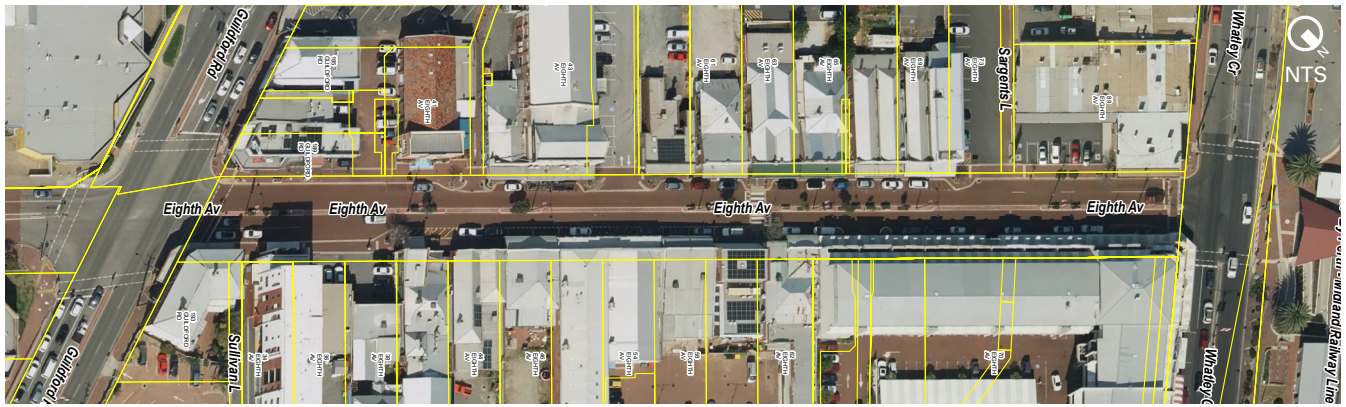
Eighth Avenue	Existing Layout Score
Healthy Streets Score	**47**
Everyone feels welcome	44
Easy to cross	57
Shade and shelter	17
Places to stop and rest	47
Not too noisy	53
People choose to walk and cycle	44
People feel safe	53
Things to see and do	50
People feel relaxed	44
Clean air	56
Total no. of '0' Scores (out of 19 metrics)	6

What is good along this street:

- Low volume of traffic
- Low volume of larger vehicles (bus excepted)
- Turning speeds at side roads
- Easy to cross mid-block
- Separation between people walking and traffic
- Availability of public drinking water
- Availability of public seating
- Cycle parking

What is not so good along this street:

- Traffic speed – above 40km/h
- Conflict with turning vehicles and cycles
- Priority crossing at intersections
- Space for walking
- Space for cycling
- Shade for walking
- Shade for cycling
- Lighting
- No measures to reduce through traffic



48 Eighth Avenue

Design Check Key Findings

Mid-block crossing facility is step-free making it easy to cross with priority

Water station assists people in staying in the Town Centre longer and contributes to lifting the score of the Design Check (Metric 13)

Parklets provide additional public space for seating to be provided by business, without further cluttering the footpath. Seating is publicly accessible at all hours.

People gather and wait to cross at Eighth after exiting the Train Station. The signalised intersection is a gateway to the Town Centre and provides step free access and ability to cross in all directions

48 Eighth Avenue

Design Check Key Findings

Bicycle parking does not have room for cargo bikes or trailers, necessary to accommodate people with families

Parked cars serve as a buffer to people walking, separating them from moving vehicles

In order for bicycle parking to be accessible to all people who cycle, there must be no level differences near the parking

Some level differences in pavement around services create trip hazards

48 Eighth Avenue

Design Check Key Findings

Flush median provides a form of visual narrowing of lanes that can slow vehicles

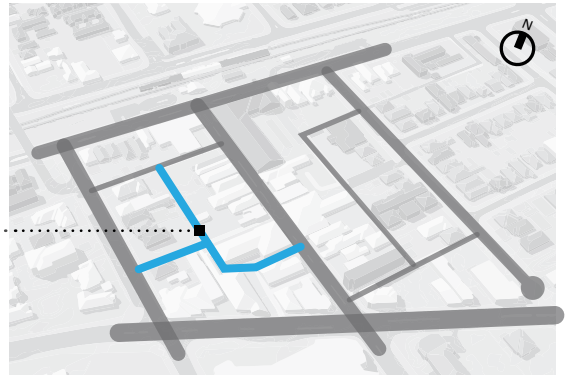
Business signs, bins and street sign interrupt the footpath

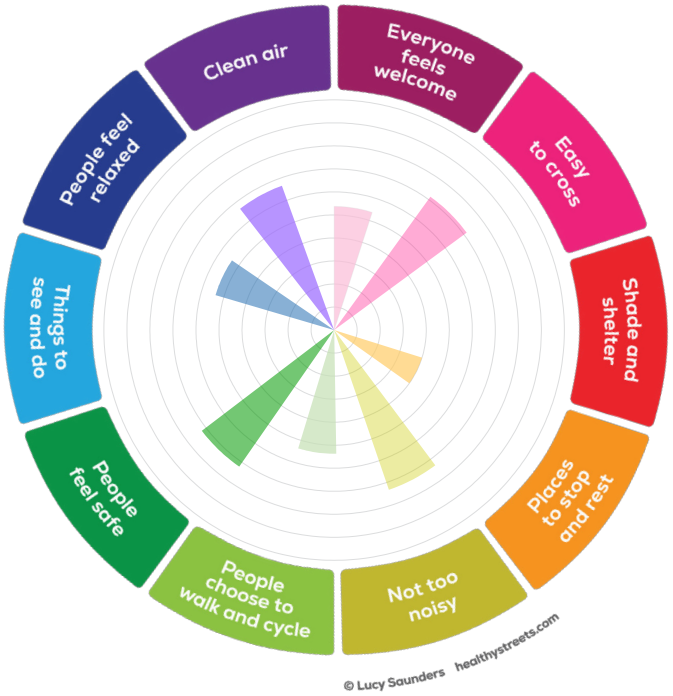
Side street entries to laneways and car parks have continuous footpath treatment reinforcing priority for people walking, but could be narrowed to make it safer

Public seating is available at regular intervals

48 Lyric Lane

Design Check Key Findings





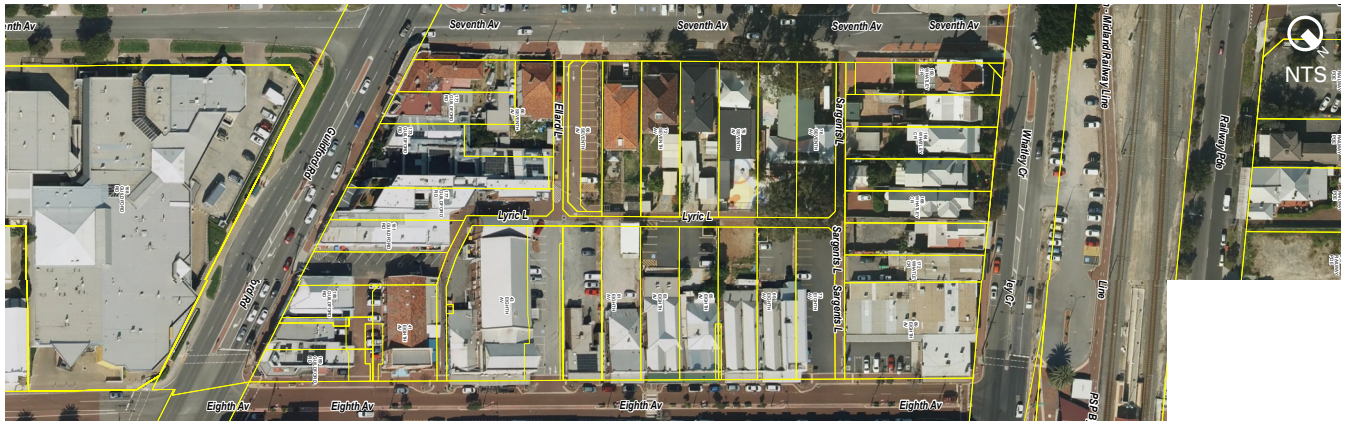
Lyric Lane	Existing Layout Score
Healthy Streets Score	**48**
Everyone feels welcome	54
Easy to cross	71
Shade and shelter	0
Places to stop and rest	40
Not too noisy	73
People choose to walk and cycle	54
People feel safe	72
Things to see and do	0
People feel relaxed	54
Clean air	67
Total no. of '0' Scores (out of 19 metrics)	5

What is good along this street:

- Traffic speed – below 30km/h
- Low volume
- Conflict between cycles and turning vehicles
- Ease of crossing midblock
- Priority across intersections
- Space for walking and cycling
- Separation between people walking and traffic
- Cycle parking

What is not so good along this street:

- Mix of vehicles
- Shade for walking
- Shade for cycling
- Lighting



48 Lyric Lane

Design Check Key Findings

Although it has low volumes of traffic, more could be done to create a proper 'shared space' (Laneway parking and part of the access-way is contained on private land)

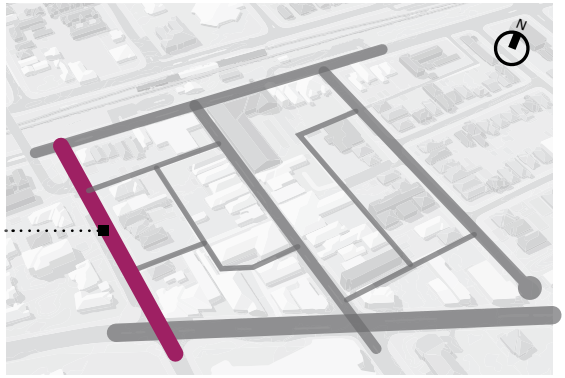
The laneway and buildings are of a human scale that makes walking very comfortable. Sense of enclosure creates the feeling of an outdoor room; businesses trade out to laneway

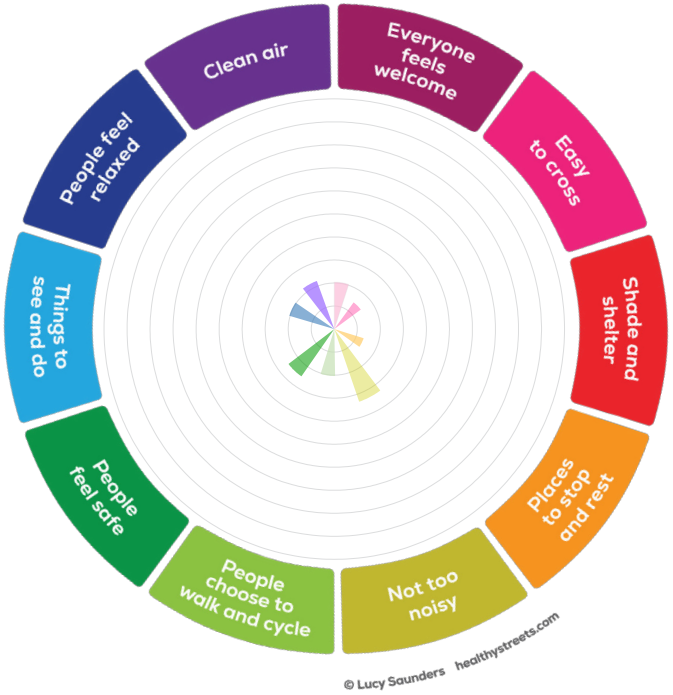
Sharp angles and reduced visibility means people driving do not travel at speeds above 10km/h. This is a safe place for people walking from a traffic perspective, but more surveillance is needed

Although the laneway egress to Eighth Avenue is only 3m wide, conflicts between vehicles and people are very rare given the low volumes and speed of traffic

17 Seventh Avenue

Design Check Key Findings





Seventh Avenue	Existing Layout Score
Healthy Streets Score	**17**
Everyone feels welcome	20
Easy to cross	14
Shade and shelter	0
Places to stop and rest	13
Not too noisy	33
People choose to walk and cycle	20
People feel safe	25
Things to see and do	0
People feel relaxed	20
Clean air	22
Total no. of '0' Scores (out of 19 metrics)	11

What is good along this street:

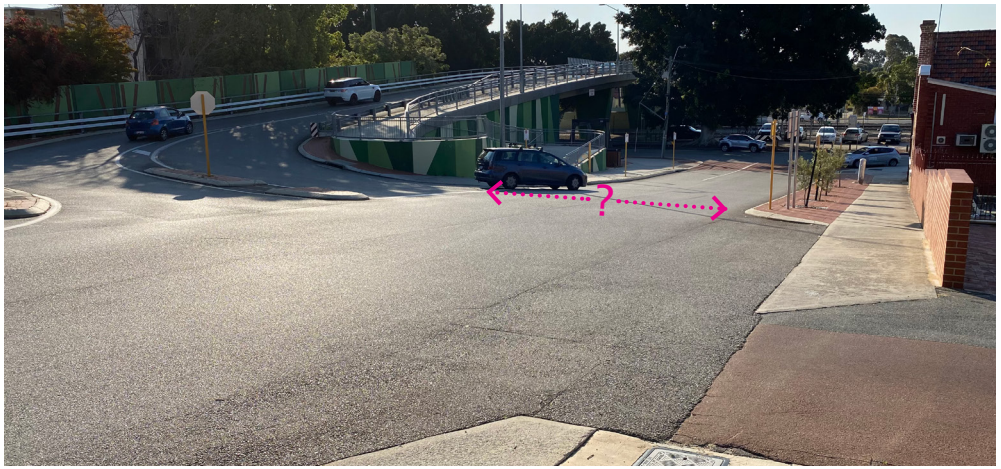
- Quality of footpath
- Space for walking
- Separation between people walking and traffic
- Availability of public drinking water
- Availability of public seating
- Cycle parking

What is not so good along this street:

- Traffic speed – above 50km/h
- Traffic volume
- Mix of vehicles
- Turning speed at intersections
- Midblock crossings
- Priority of crossings (side streets and midblock)
- Separation between people walking and traffic
- Space for cycling
- Shade for walking
- Lighting

17 Seventh Avenue

Design Check Key Findings



Switch-back ramp unduly extends walking distance and creates a physical barrier to the natural desire line over the Seventh Avenue overpass. Crossing points missing at base of overpass.

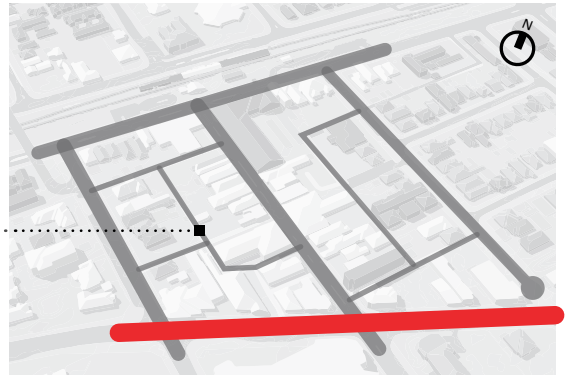
Large intersection to navigate; crossings and pram ramps to the other side of the street are non-existent, meaning fit and able cross without facilities and others travel longer down to Seventh Avenue.

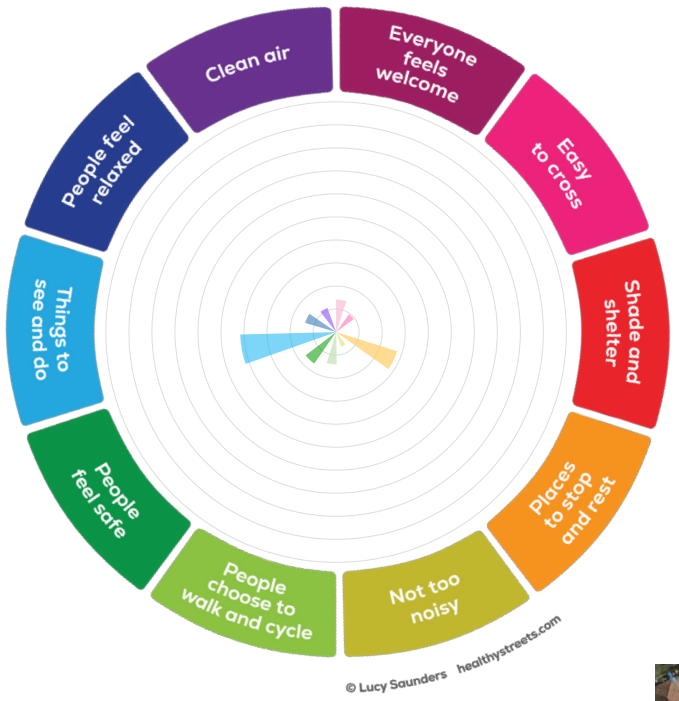
Parking and verge provides good separation between people walking and fast moving traffic. Unsafe speeds were observed during the check, particularly drivers coming off Guildford Road.

No adequate separation between traffic lane approaching Guildford Road and people walking, which creates an uncomfortable walking environment. Footpath pavement should continue over crossover.

16 Guildford Road

Design Check Key Findings





Guildford Road	Existing Layout Score
Healthy Streets Score	**16**
Everyone feels welcome	14
Easy to cross	10
Shade and shelter	0
Places to stop and rest	28
Not too noisy	7
People choose to walk and cycle	14
People feel safe	17
Things to see and do	42
People feel relaxed	14
Clean air	11
Total no. of '0' Scores (out of 19 metrics)	11

What is good along this street:

- Availability of drinking water
- Public seating

What is not so good along this street:

- Traffic speed – 60km/h
- Traffic volume
- Mix of vehicles
- No cycle infrastructure at intersections
- Separation between people walking and traffic
- Difficult to cross
- Space for cycling
- Shade for walking
- Lighting
- Bus stop facilities

16 Guildford Road

Design Check Key Findings

No seating for people when waiting for a bus

Space between bus sign and power pole leaves only 1.2m

widened lane for bus stop approach squeezes footpath width

Various level differences exist in the footpath pavement, which create trip hazards, particularly where service openings exist

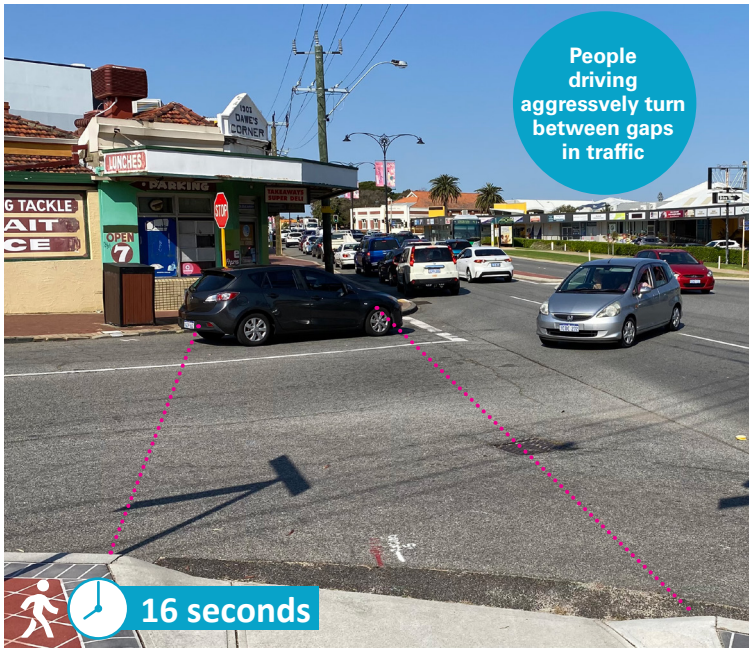
Wait time to cross signalised intersection over 60 seconds. 'Green time' not long enough for elderly to cross comfortably

No adequate separation from fast moving heavy vehicles; very intimidating and unwelcome space to walk

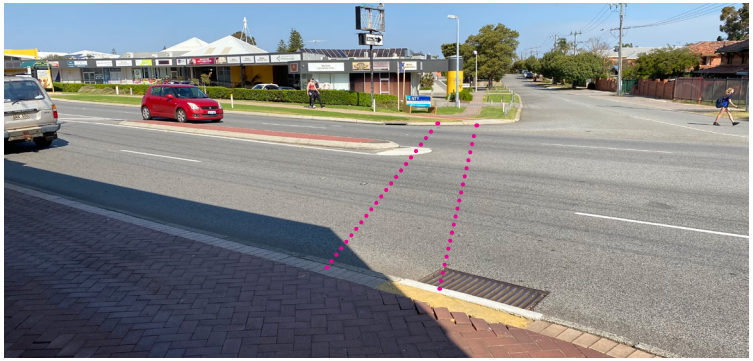
No lighting specifically designed for people walking; however residual light from roadway adequately covers footpaths. Spread of light is harsh

16 Guildford Road

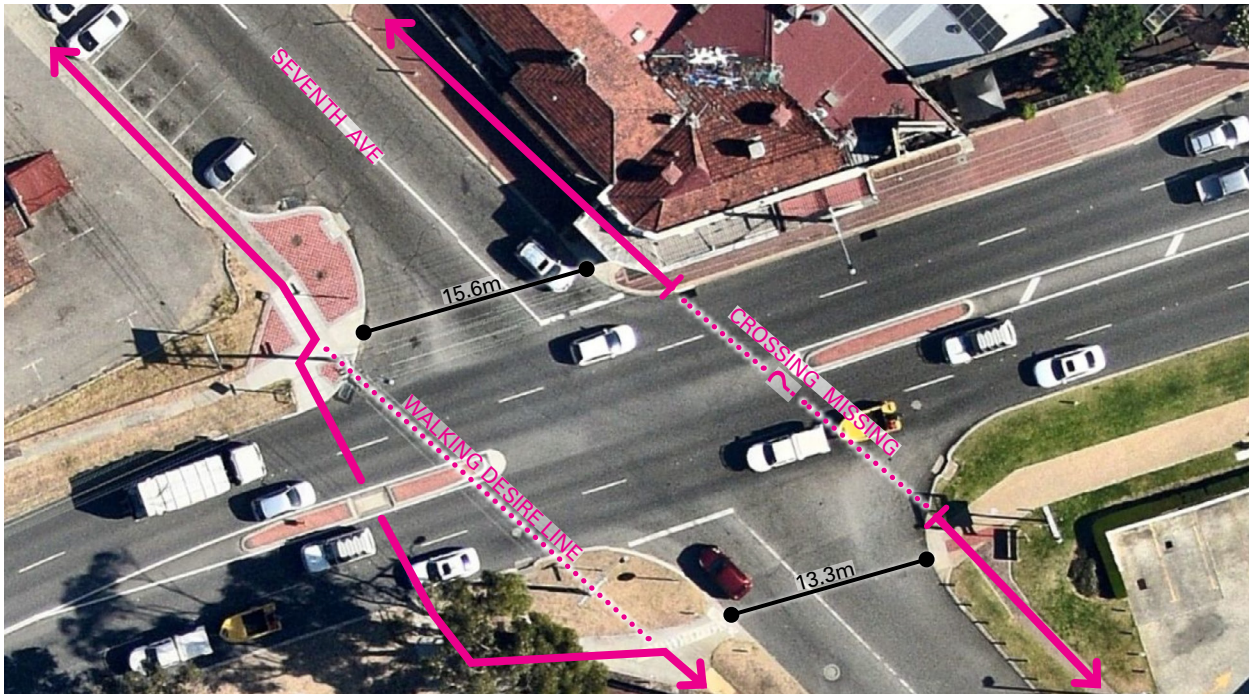
Design Check Key Findings



Time for an elderly person walking at 3.5km/h to cross the street that is 15.6m wide.



Missing crossing point



The highest scoring streets have narrow intersections that allow people of all ages and abilities to navigate safely at their own pace. A narrow intersection is one less than 7m wide.

Crossings are not on the walking desire line, making it harder for people to cross

16 Guildford Road

Design Check Key Findings

No shade or shelter for people that need to rest.

Up to 90 seconds wait time for people waiting to cross at the signalised intersection at Eighth Avenue

No refuge from fast moving traffic

No refuge from fast moving traffic; access on foot is necessary as businesses front Guildford Road

"While simply lowering posted speed limits can play a role in reducing and enforcing lower speeds, the overall efffectiveness is limited if the appearance of the road does not match it. Physical design cues have proven more effective than posted speed limits in lowering overall operating speeds. A combination of design to affect drivers' recognition of safe speed, with setting appropriate speed limits, is most effective.

- Urban Streets and Road Design Guide, Auckland Transport

Slower speeds are safer and appropriate in high activity areas, and will require design interventions in order for people driving to travel at safe speeds. The existing Guildford Road does not give the impression of travelling through a high activity area where people need to cross safely, and will continue to act as a barrier causing severance between the Maylands Peninsula and the Town Centre and Train Station if no action is taken.

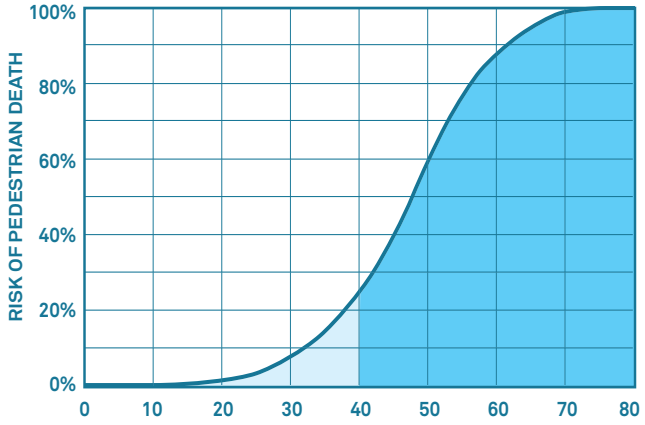
Vehicle Speed

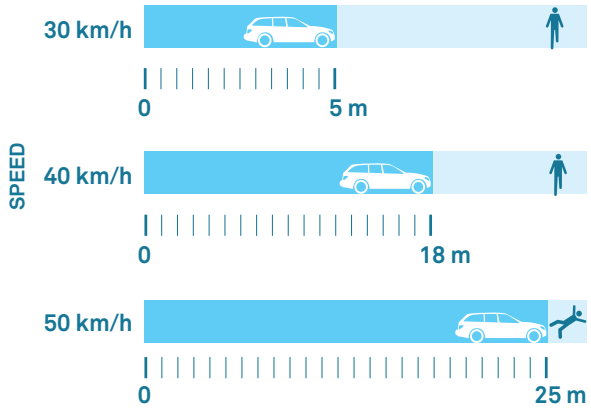
A common issue to all streets

Lack of street trees or shade on road pavement

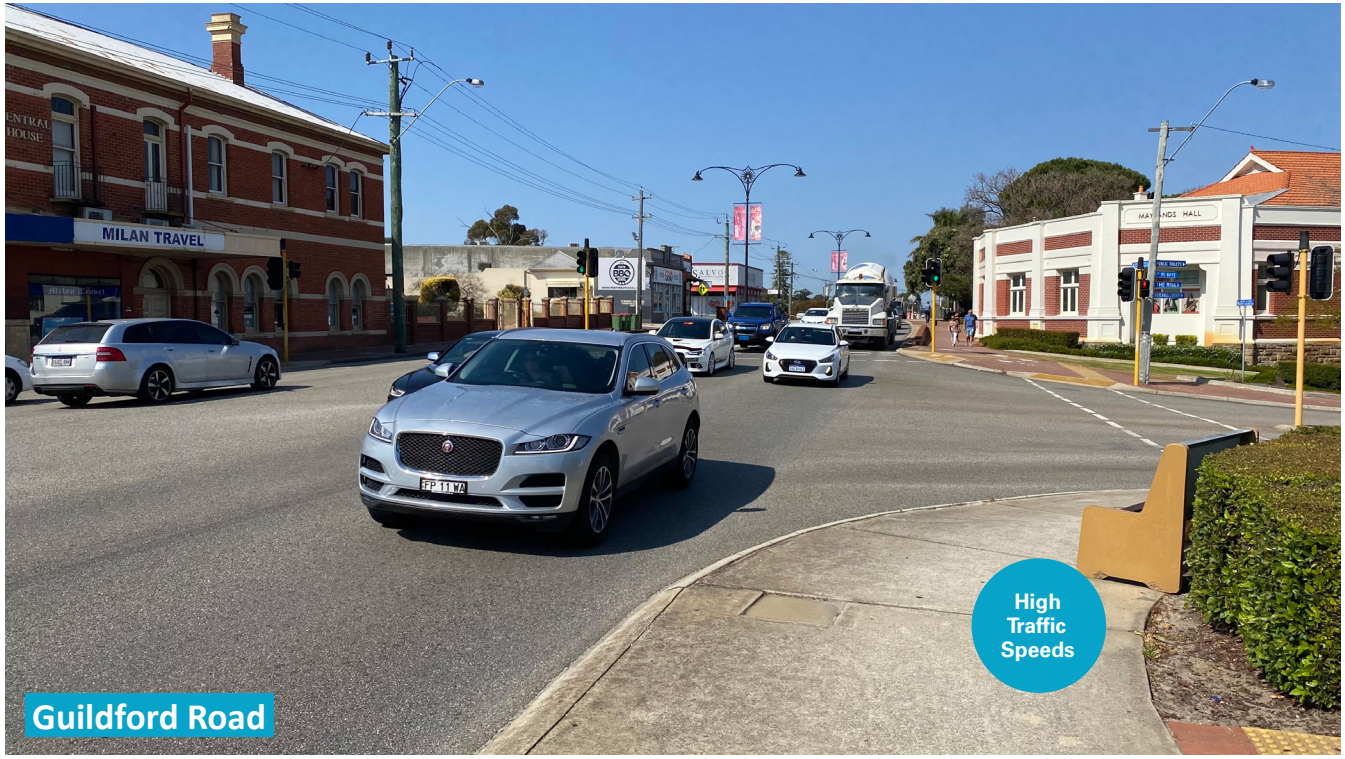
Traffic lanes are larger than necessary, facilitating high speeds

Dangerous for people cycling to share space with vehicles





The relationship between impact speed and risk of death for people walking and increased stopping distances
Source: NACTO Global Street Design Guide



High traffic speeds mixed with high volumes does not make a pleasant or safe place to walk.
Safe separation required between fast moving traffic and people walking (2.15m separation required to achieve highest score)

Workshop Outcomes

Suggestions and Ideas to Explore Further

Healthy Streets Workshop

On 17 November 2022, Main Roads WA organised a full day workshop with various stakeholders of the Town Centre and technical staff from various Government Agencies and Industry Groups to present preliminary findings from the Healthy Streets Checks and to work towards ideas to address the critical safety aspects identified throughout the Town Centre.

Representatives from participating organisations and groups of community and stakeholders included:

- 12 x attendees from the Community Reference Group
- Main Roads Western Australia
- City of Bayswater (Administration)
- Department of Transport
- Westcycle
- The Royal Automobile Club of WA (RAC)
- Public Transport Authority
- Department of Planning, Lands and Heritage
- WA Local Government Association
- Phil Jones Associates
- Taylor Burrell Barnett
- Healthy Streets Ltd

The Healthy Streets Checks identified that the common issues along all streets studied are:

- Traffic speed – above 50km/h
- Turning speed at intersections
- Midblock crossings
- Priority of crossings (side streets and midblock)
- Separation between people walking and traffic
- Space for walking
- Space for cycling
- Shade for walking
- Shade for cycling

- Availability of public drinking water
- Availability of public seating
- Availability of cycle parking
- Lighting
- No measures to reduce through traffic

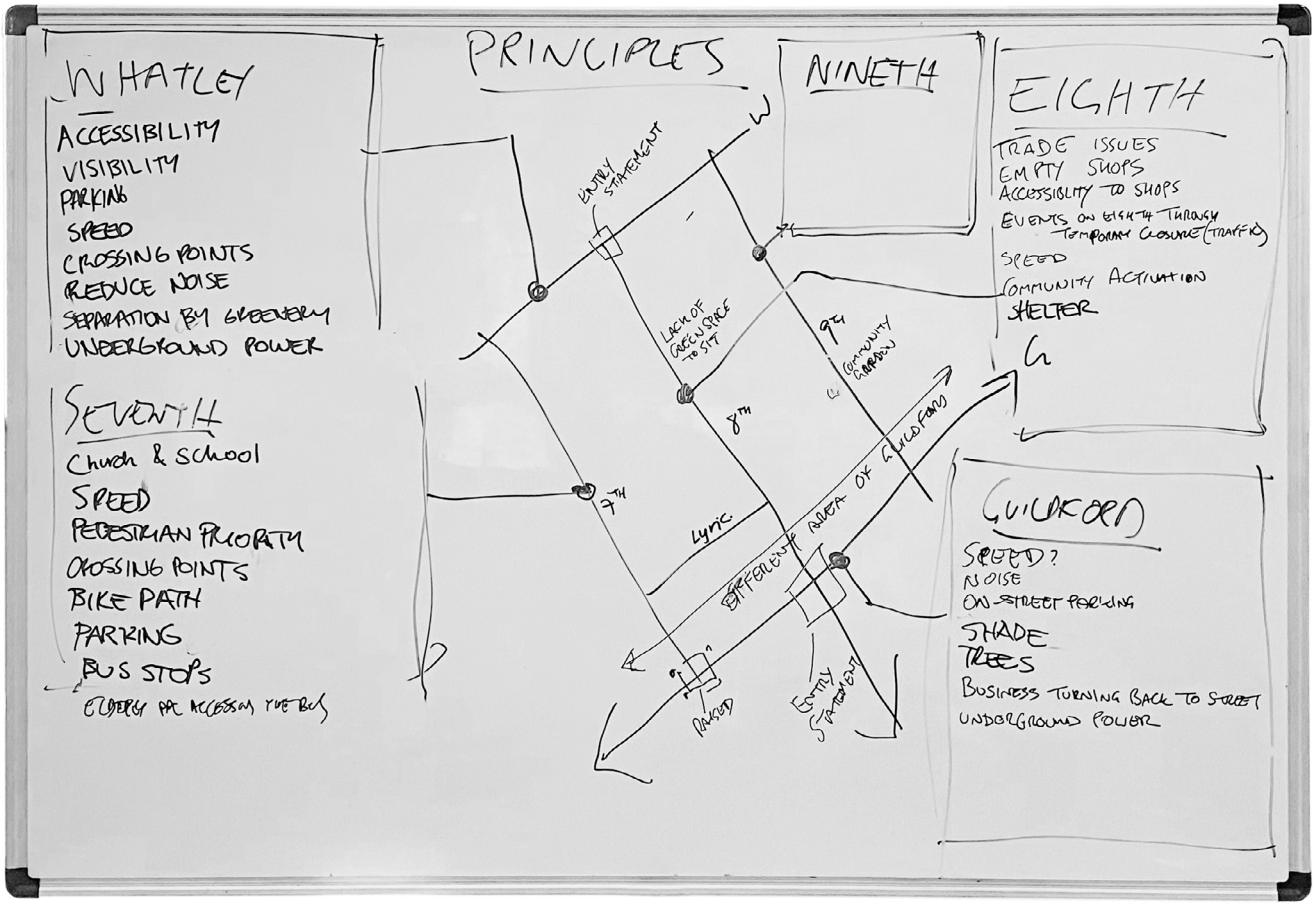
The workshop groups looked at the same streets that were subject to the Healthy Streets Design Check and considered what measures would be appropriate in this context and would serve to deliver improvements in Healthy Streets Indicators.

Key points raised in the discussion are presented here for each street.

Whatley Crescent

Currently has a Place Value liked by local residents, with active street frontages with some alfresco dining and a mix of day and evening activity. Having on-street and off-street parking nearby, along with proximity to the train station and availability of bike parking were also seen as benefits.

- Suggestions for improvements included greater connectivity between Whatley Crescent and north and south of Maylands either side of the train station. Providing improved entry statements to the area with improved streetscaping shading the footpath, widen footpaths with reduced obstacles to navigate around and improved access to and from the PSP to the other side of Whatley Crescent. Creating a safer space with reduced vehicle speeds and volumes through the area.
- Specific suggestions included: extend roof at train station building to provide shelter and shade, improved crossings across Eighth and Ninth Avenue intersections with Whatley Crescent, consider the demand for on-street parking and user type.



Principles and notes for each street discussed by the Group at the Workshop (session facilitated by MRWA, PJA and TBB)

Seventh Avenue

Recognised by local residents that it currently presents a poor environment for people walking and riding, with perceived high speeds between Guildford Street and Seventh Avenue traffic bridge.

- Suggestions included improved access to the new Woolworths to cater for people who may want to walk or cycle, along with facilities so that bikes can be stored.
- In addition, consider reducing the speed limit to 30km/h due to the school located near Whatley Crescent and Seventh Avenue, achieved through additional treatments such as raised safety plateaus and narrowing of traffic lanes. Providing improved crossing facilities to the school (near or close to the crest in the road), along with removing the 45° parking as it is seen as unsafe due to reversing vehicles into oncoming traffic due to restricted sight lines and the parking should be managed through timed management.
- Specific suggestions noted improvements required for walking and riding at the Seventh Avenue road bridge due to the restricted sight lines turning right or left onto Seventh Avenue.
- Shade and wider footpaths required to improve the walking environment along Seventh Avenue, along with new benches and water fountains.

Guildford Road

it was generally recognised that Guildford Road is a movement corridor carrying higher volumes of traffic, freight and buses.

- Enhance the linkages between land uses to the south of Guildford Road to the north of Guildford Road (such as connecting The Rise to the town centre and train station) with improved bus stops, shaded footpaths, improved pedestrian crossing timings at Eight Avenue and proposed Seventh Avenue traffic signals, and reduce the speed through the intersections (by design such as raised safety plateaus) and wider pedestrian refuges.
- Consider managing the street parking, with clearways during peak times or at all times to allow for wider footpaths and ensure additional seating and access along Guildford Road.

Eighth Avenue

Currently has a value liked by locals, perceived as slower traffic speeds, easier to cross with activation in places both during the day (café) and at night (bars). Good connection between Guildford Road and the Train Station. However, businesses need help as they do not seem to be as successful as the nearby Whatley Crescent strip.

- Suggestions to improve Eighth Avenue include wider footpaths to provide a clear walking space uncluttered by street furniture and more street greening (shade currently provided by shop awnings).
- There is the potential for this area to be a Transit Orientated Development through growth and density along Eighth Avenue. To facilitate an environment for an increased population to be less car dependent some suggestions included:
    - Improved pedestrian phasing at the signalised intersections with Whatley Crescent and Guildford Road.
    - More bike parking including e-bike parking.
    - Slower traffic speeds for a safer on-road riding environment.
    - Wider footpaths.
    - More street greenery (trees and parklets).
    - Improved pedestrian/decorative lighting.
    - Consider temporary road closures through bollards.
    - Shop owners need to invest in the look of shops to be more inviting.
- Specific suggestions to improve the area included extending the PTA shelter at the train station over the footpath toward the traffic signals at Whatley Crescent and Eighth Avenue intersection, as well as raising the intersection to footpath level to improve the pedestrian crossing facilities and slow traffic speeds

Recommendations

Comment on the Proposed Concepts

Image Source: Arup c/- Main Roads WA in CRG Meeting Minutes

Seventh Avenue

Main Roads WA is investigating design options to accommodate traffic signals at Seventh Avenue, with a strong possibility that Seventh Avenue will facilitate bus movements to a new transfer station east or west of the Maylands Station.

While the proposed concept in its current form introduces a new crossing on the north eastern side of the intersection, plus signalised crossings which will be much safer for people walking, the design would introduce a number of challenges for people walking and cycling that will result in a lower Healthy Streets score when measured in isolation.

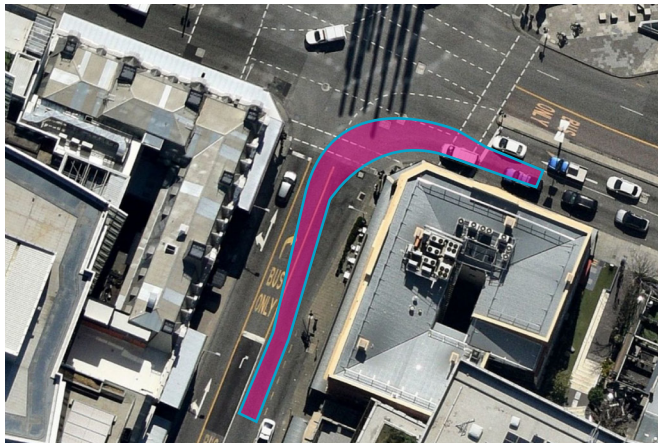
A large sweeping bend is being proposed to accommodate buses moving in a lane correct manner, for what is an acute angled intersection. The resultant kerb line will increase the size of the already large crossing (albeit signalised).

At 23m from one side to the other, it would take an elderly person almost 24 seconds to cross walking at 3.5km/h.

Consideration should be given to design alternatives that might assist in keeping the geometry tighter and the distance across the intersection to a minimum. This might include stepping back one of the lane's stop lines (a possibility where signals are used), so that the bus can swing out and into the lane without having such a large turning radii for the kerb.

See Appendix C for a list of other issues identified, including Design Checks for the Whatley Crescent and Eighth Avenue indicative cross-section concepts.

Although a pragmatic decision might be to accept a lower Healthy Streets outcome for Seventh Avenue to take away the burden of accommodating buses from other streets, it will still be important to give proper consideration to the human impact of any final design.



By having one lane's stop line moved back from the intersection, it allows the bus to make the turn while still keeping the intersection tight and crossing distance to a minimum

Bus overlapping turn lane, intersection of William Street and Wellington Street, Perth CBD

Intersection Design Guidance

The geometry of an intersection can be enhanced by considering a number of design treatments. The most important techniques are discussed below.

KERB RADII

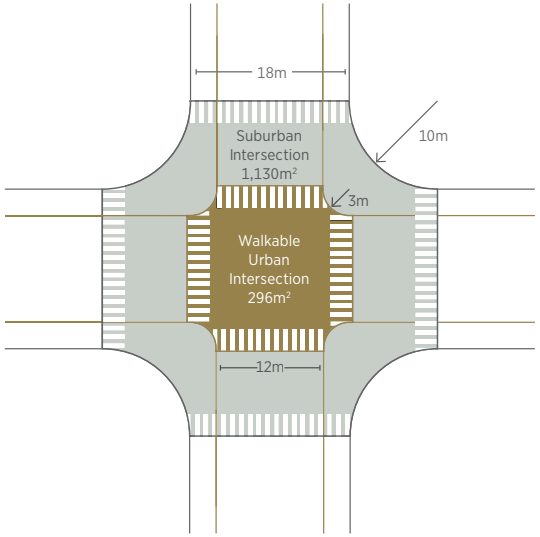
The geometry of a kerb radius (or corner radius) significantly affects the overall operation and safety of an intersection. The shape and dimensions of kerb radii vary based on street type and transport context.

Kerb radii should be designed to maximise pedestrian space and shorten pedestrian crossing distance. The smallest possible kerb radius should be used, while providing for the appropriate design vehicle. (See Design Vehicle, Chapter 4.)

Minimising kerb radii has multiple benefits for both pedestrians and cyclists. It reduces the crossing distance (thereby decreasing exposure to conflicts), enhances the visibility of the pedestrian, slows turning vehicles down significantly, and brings pedestrian crossings closer to the intersection. Because traffic on the intersection is slowed by minimised kerb radii, it becomes easier for people on the intersection to see one another and adequately respond to each other's movements and actions. Minimised kerb radii also benefit cyclists, as speeds of turning vehicles are reduced, thus reducing the risk of a turning motorist turning left across the path of a cyclist going straight across the intersection.

An appropriate kerb radius should be designed for every corner of an intersection, based on the range of vehicles that are expected to use the intersection. It is difficult to design for each and every type of vehicle that is expected to use the intersection, and the occasional difficult turning movement is acceptable. For instance, kerb radii at local neighbourhood streets should not be designed for the occasional moving truck. Appropriate Design and Check vehicles must be chosen. (See also Design Vehicle, Chapter 4.)

COMPATIVE SIZE OF INTERSECTIONS



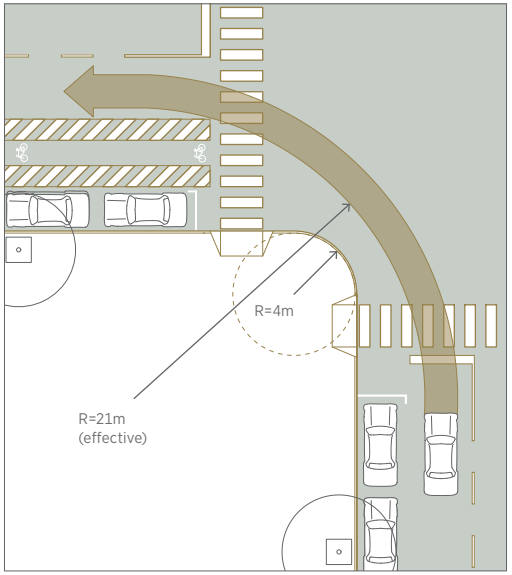
EFFECTIVE TURNING RADIUS

When designing intersections, it is critical to consider the elements that create the effective turning radius. The effective radius is the curve that vehicles follow when turning. The effective radius is influenced by kerb extensions, parking, cycle lanes, medians and receiving lanes.

Many drivers will turn into the centre-most lane to minimise centrifugal force. In order to create the desired conditions of a street type, e.g. slow turning speeds, the effective turning radius must be considered when establishing the actual kerb radius.

The effective turning radius is also a key tool for designing for streets with regular large-vehicle movements. The receiving and the kerbside elements (parking, cycle lanes) defines the effective turning radius that needs to be balanced with the desire to keep the actual kerb radius and intersection as small as possible. Where the effective turning radius for cars exceeds the preferred maximum radius, over-run paved areas can be used for large vehicles turning to manage speed and user conflicts.

Rare large-vehicle movements on neighbourhood and narrow streets can be accommodated by using the entire carriageway, including adjacent and oncoming lanes.



LANE MATCHING

Lane matching ensures that lanes are allocated in a manner intuitive for users and that supports the priorities of the street type. The number of entering lanes entering an intersection should align with the number of receiving lanes.

The introduction of additional, short vehicle lanes (e.g. stacking lanes) at intersection approaches introduces turbulence (unconfined, unpredictable vehicle movements), rewards aggressive drivers and compromises the objectives of designing a compact, multi-modal intersection.

Exclusive right turn lanes generally should be introduced to the right of the centre-most through-moving vehicle lane. Through-moving lanes that become right-turning lanes introduce unnecessary complexity and traffic turbulence and force people driving to make abrupt, unpredictable lane changes. The right turn lane should be as short as possible to accommodate the typical queue.

Extract Source: Urban Street and Road Design Guide, Auckland Transport

Recommendations

Further Design Guidance

Appropriate Speeds for Appropriate Context

The existing speed limits on all the roads within the study area will be reviewed and reduced (where appropriate) to accommodate a safer environment for all road users.

Desired speed	Appropriate location
10 km/h	Shared spaces
30 km/h	Main street Arterial or Collector. Local Streets. Some Mixed-Use Arterials in centres. Also any type near schools or other major pedestrian destinations. Points of conflict with vulnerable people (crossings, intersections).
40 km/h*	Neighbourhood or Mixed-Use Collectors. Some Mixed-Use Arterials in centres. Any School Zones that have not been reduced to 30 km/h. *Prefer 30 km/h for safety, unless protected crossings provide good accessibility.
50 km/h	Single Use Arterials. Mixed-Use Arterials with extended urban lengths. These streets must be provided with suitable safe crossing points with speed reduced locally.
>50 km/h	Single use arterials with limited access, Urban expressways and motorways. Safe crossings should be grade-separated or at intersections with speed reduced locally.

Table Source: Urban Street and Road Design Guide, Auckland Transport

Accommodating Buses with Tight Intersections

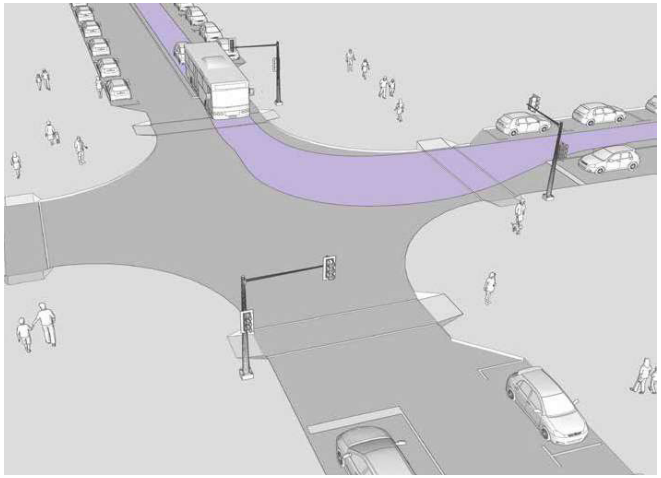
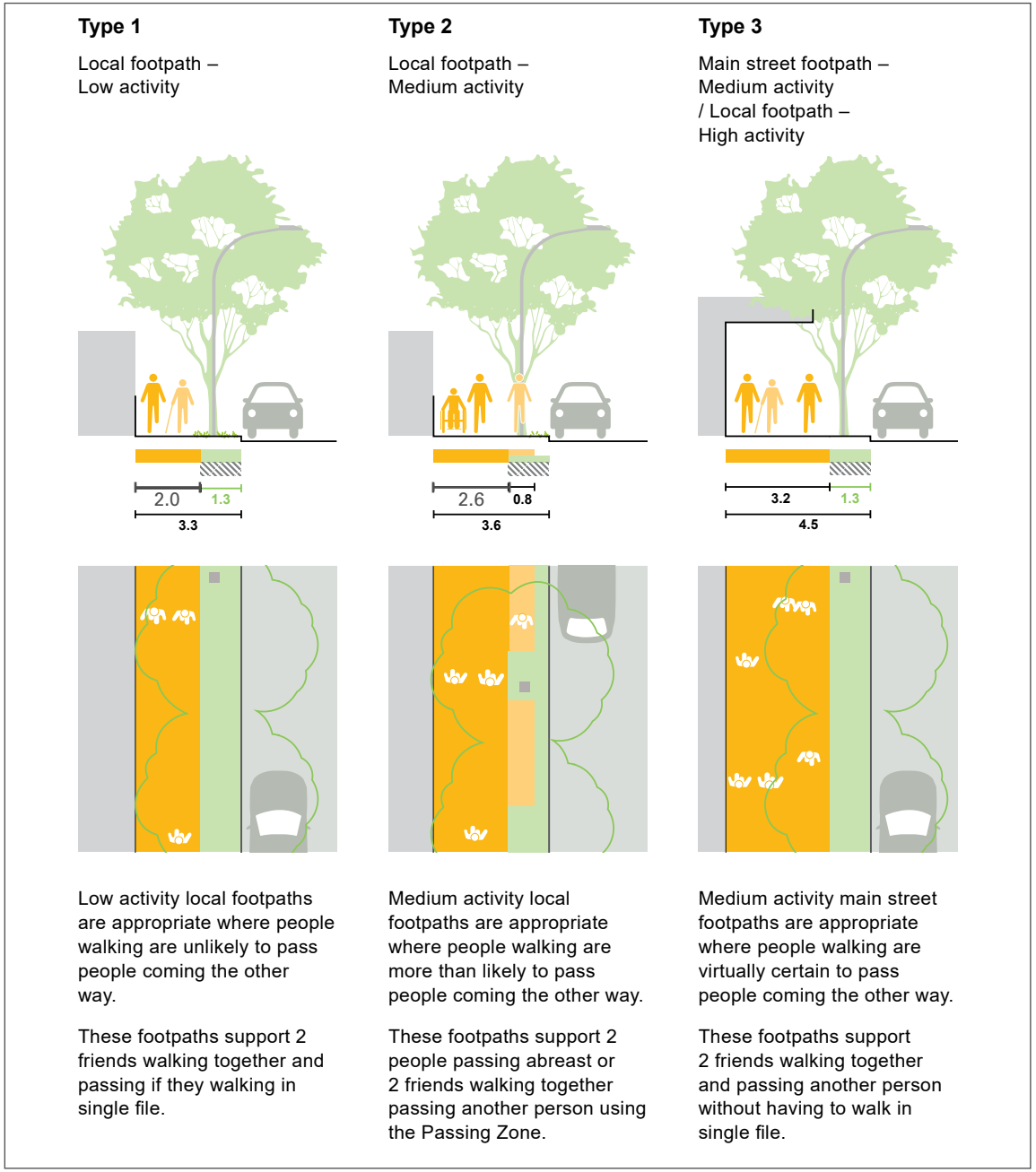


Image Source: Urban Street and Road Design Guide, Auckland Transport

Walking Space Guidance



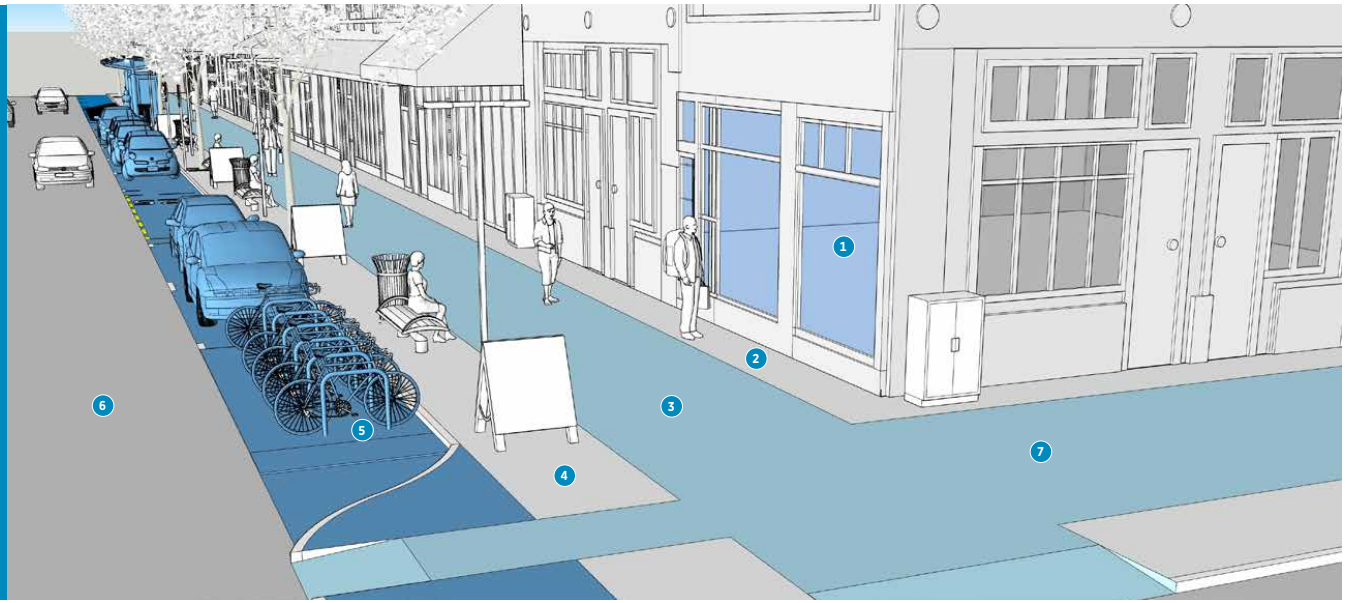
Healthy Streets Design Check Tool Guidance to achieve a high score for footpath width (extract from TfNSW Walking Space Guide)

Walking Space Guidance

Different zones can be identified across the road reserve in high-density urban areas. From the building to the travelled way, they include:

- Adjacent lands
- Frontage zone
- Pedestrian clear path
- Street furniture zone
- Ancillary zone
- Carriageway

The following zones are considered when setting out a street cross section.



1 ADJACENT LANDS

The adjacent lands often contain active land uses, including places to eat and drink and ground-floor retail. The adjacent lands host the types of active land use that draws people to the street, and also serves as the point of origin for many pedestrians using the footpath.

2 FRONTAGE ZONE

The frontage zone is the space adjacent to the building edge where ground-floor uses spill out onto the footpath. It can be an extension of the active land uses found along a street. The frontage zone is where the features found along the edge of a street interact with the street use.

3 PEDESTRIAN THROUGH ROUTE

The pedestrian through route (also referred to as pedestrian through zone) provides a movement zone for pedestrians that is clear of any obstacles, facilitating through access for people walking along a street, regardless of age and abilities. Frequent safe crossings provide continuity for people on foot.

4 STREET FURNITURE ZONE

The street furniture zone is the designated area for a variety of features. It provides space for signs, light and signal poles, street trees, public transport stops, rubbish bins, and any additional underground infrastructure.

5 ANCILLARY ZONE

The ancillary zone sits between the street furniture zone and the carriageway, and offers opportunities to provide temporary pedestrian uses such as kerb build-outs, patios and parklets. Other uses include cycle and car parking, loading zones, taxi stands, pick-up/drop-off zones and public transport stops.

6 CARRIAGEWAY

The carriageway provides space for travelling through the street for vehicles, public transport and for the delivery of goods. In off-peak hours, this space may be partially used for parking and loading. On occasions, access to vehicles might be restricted to provide space for events and festivals.

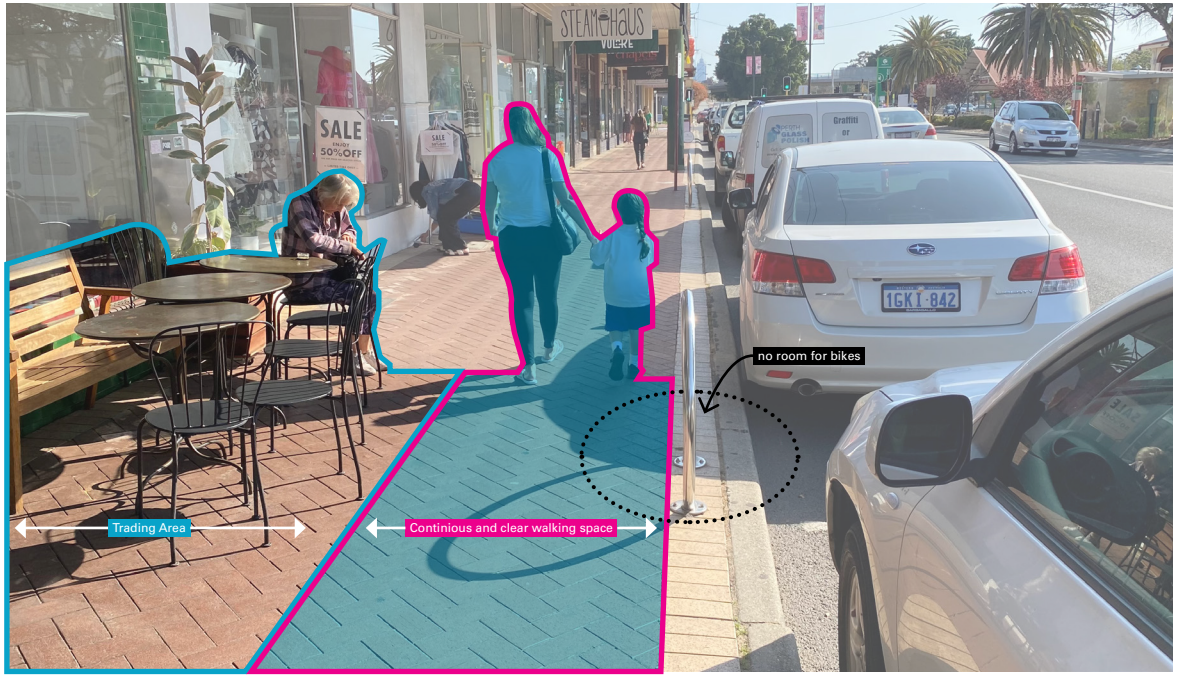


Image Source: Urban Street and Road Design Guide, Auckland Transport

Recommendations

Precedent and Examples Done Well

Example of using sustainable planting and classy colour palate to make cycle facilities blend attractively into the streetscape

A105, Enfield, London
Google Streetview here

Example of suburban connector road improvements for walking and cycling

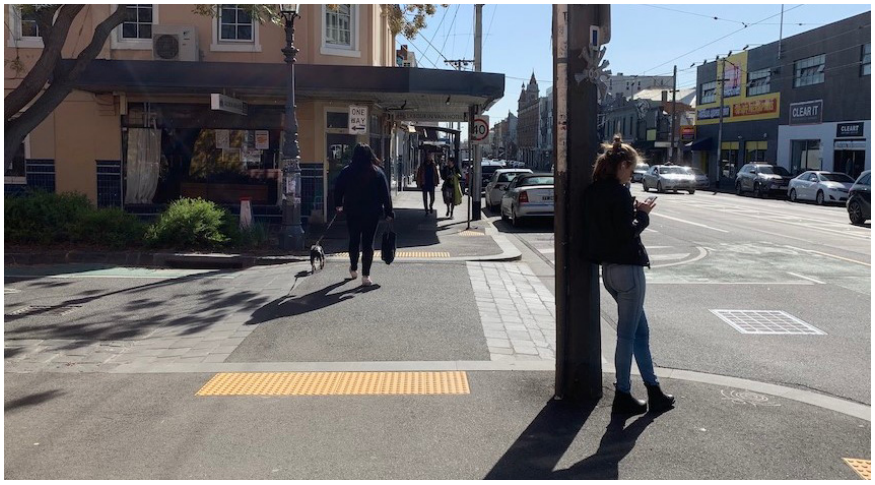
Village Road, Enfield
Google Streetview here

Example of local shopping street, low cost treatment, clear footpath

Francis Road, Waltham Forest, London
Google Streetview here

Example of local shopping street, low cost treatment, with step free access and continious footpath

Francis Road, Waltham Forest, London
Google Streetview here



Example of continious footpath treatment, Fitzroy, Melbourne

Brunswick Road, Fitzroy, Melbourne
Google Streetview here

Example of local shopping street, low cost treatment, with step free access and places to stop and rest

Francis Road, Waltham Forest, London
Google Streetview here

Example of suburban high street improvements

Orford Road, Waltham Forest, London
Google Streetview here

Example of local high street improvements on a street with significant through-traffic and public transport

Thaliastrasse, Vienna
Google Streetview here

Example of continious footpath treatment

Sydney

Example of step free access along busy bus route with places to stop and rest and cycle parking

South Terrace, Fremantle
Google Streetview here

Example of measures to slow vehicles when passing key destinations (in this case a primary school) by adding curves and colour

Moreland Street, Islington, London
Google Streetview here

Example of raised table and step free access, with horizontal deflections to slow vehicles

Hay Street, Perth CBD
Google Streetview here

Suburban shopping street, low cost treatment to slow vehicles with visual narrowing and improved ease of crossing on a bus route

White Hart Lane, Haringey, London
Google Streetview here

Street treatment to give people priority to cross side street entrances and maximise footpath space with inset parking bays and a level surface across footways and carriageway

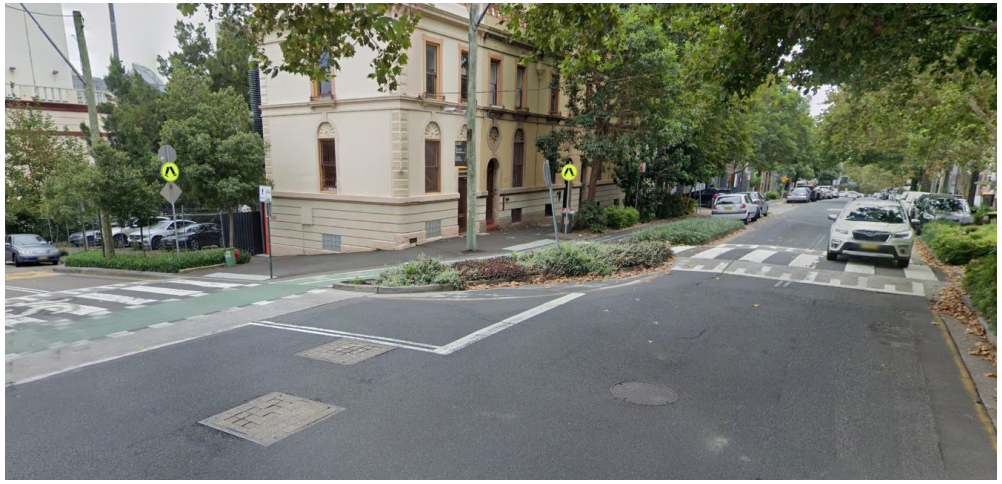
Old Town, Clapham, London
Google Streetview here

Example of one-way high street with shade trees and step free access / shared space

Bayview Terrace, Claremont
Google Streetview here

Example of local high street improvements on a street with significant through-traffic and public transport

Thaliastrasse, Vienna
Google Streetview here



Priority crossings on all sides of a local street intersection

Bourke Street, Darlinghurst, Sydney
Google Streetview here

"do we prioritise people walking while accommodating cars; or are we prioritisng cars while barely accommodating people?

- Lucy Saunders

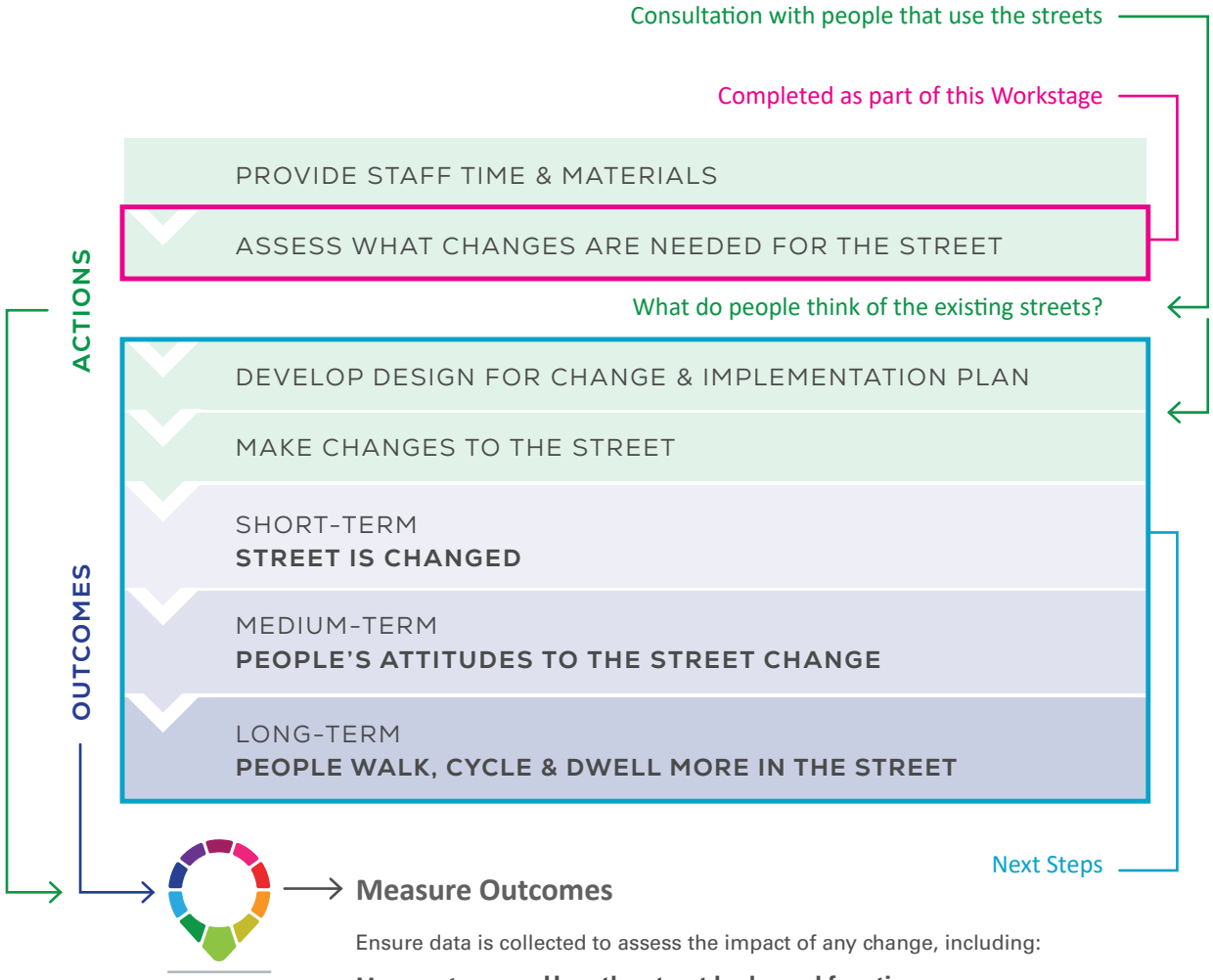
Recommendations

Next Steps

The Healthy Streets Approach should be applied throughout the process of development, delivery and evaluation. This ensures the best outcomes for people, balancing priorities and always meeting those basic human needs set out in the 10 Healthy Streets Indicators.

The skill in delivering the Healthy Streets Approach comes from synthesising the suggestions made at the workshop to deliver multiple benefits in the round through a joined-up approach to design. For example, narrowing and raising the entrances to side streets and car parks helps people driving to comply with their legal obligation to give way to people on the footpath, it reduces the risk of those cycling being hit by turning vehicles and it ensures a safe, pleasant and accessible environment for people walking along the street. Likewise widening the footpaths creates more space for people to walk comfortably, and also provides space for shade planting, seating, cycle parking. The additional benefits from this are that narrower traffic lanes mean people find it easier to drive within the speed limit and gives those cycling more confidence that the people driving will see them and help to keep them safe.

At the beginning of any project it is essential to get a rounded understanding of how the streets are working for people. The Healthy Streets Design Checks presented in this report provide valuable information about how the street looks and functions. This should be applied throughout the design process to keep the project aligned with the Healthy Streets Approach. In addition, it is necessary to gather data on how people are using the street, where they linger, walk, cycle, cross the street, how, when and where they drive and park cars. Thirdly it is essential to get an understanding of how people feel the street currently performs against the Healthy Streets Indicators. This can be achieved with an on-street Healthy Streets Survey or focus groups using the Healthy Streets Qualitative Assessment. For more information on how to embed the Healthy Streets Approach in the development of a project see the Healthy Streets Evaluation Framework.

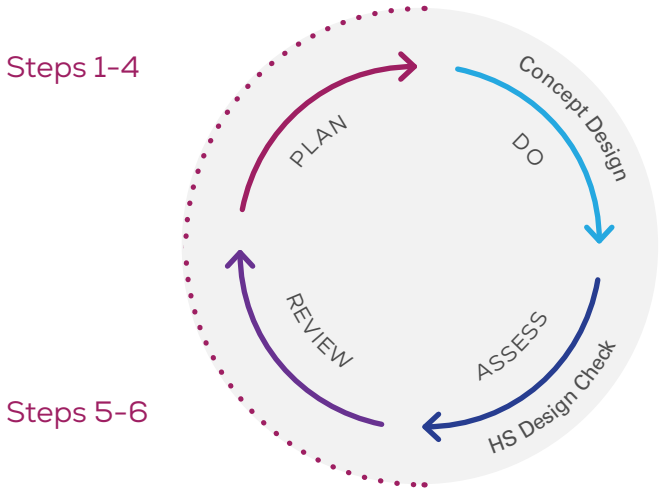


Source: Healthy Streets Ltd, Healthy Streets Evaluation Framework

The development of concept designs, including funding investigations, staging and priority considerations should all be grounded in this baseline data from these three sources and clear Healthy Streets objectives. The Healthy Streets Design Check tool should be applied to all concept designs to ensure opportunities to increase the Healthy Streets score and eliminate zero scores for metrics. Following implementation all the data collected at baseline should be collected again to understand how successful the project has been in terms of delivering Healthy Streets improvements and these reflections can then feed into the development of the next project.

Key Recommendations:

1. Ensure Healthy Streets Practitioners and Designers are leading decision making in the project team. Accredited practitioners can be found here.
2. Ensure that the Healthy Streets Design Check is completed at every stage of the project development to ensure the potential to maximise Healthy Streets outcomes are being considered
3. Ensure a comprehensive Healthy Streets Assessment - comprised of the three data sources collected at baseline and post-build review – to demonstrate the success of the project in delivering the Healthy Streets Approach.
4. As a project objective, make a commitment for the Healthy Streets score to increase, not decrease, as a result of spending public funds on public streets.
5. In collaboration with the City of Bayswater, develop a Streetscape Improvement plan that specifies the concept designs, material and landscape palette, lighting strategy, costings and staging, in a manner that complements the City's Urban Design Framework for Maylands.



Six steps of an evaluation

This is a standard evaluation framework to apply to street projects.

Step 1

Clarify your objectives and 'theory of change' for the project

Step 2

Build evaluation into project planning from the start

Step 3

Choose your measurement tools

Step 4

Design how you will use the measures to suit the project you are evaluating

Step 5

Use the evaluation to improve project delivery

Step 6

Report your findings

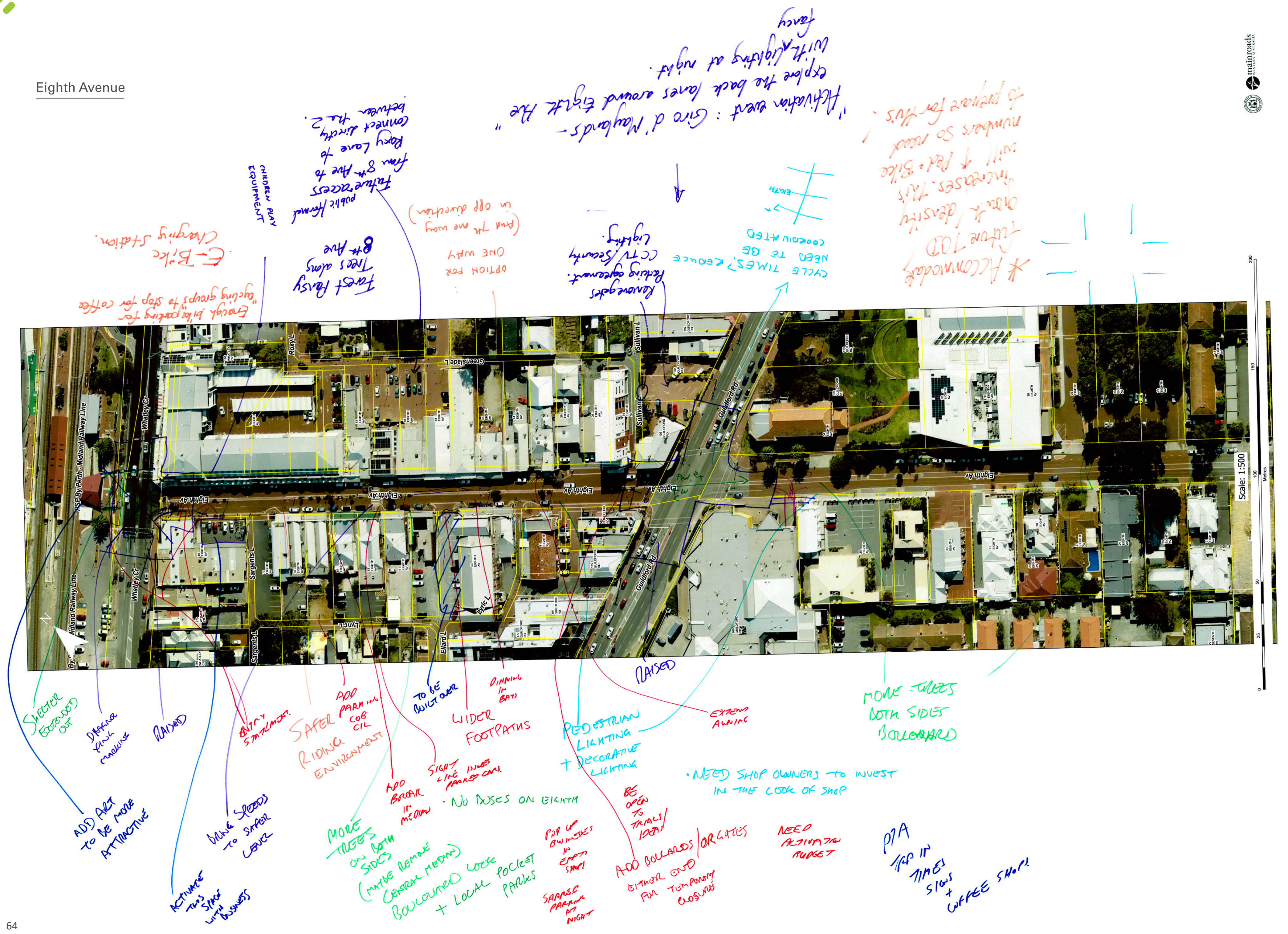
Source: Healthy Streets Ltd, Healthy Streets Evaluation Framework


not part of study area

A

APPENDIX

Workshop Marked-up Plans


Eighth Av
Whatley Cr
Guildford Rd
Sargents L
Sullivan L
Roxy L
Greenslade L
Lyric L
Elford L
Midland Railway Line
PSP By Perth - Midland Railway Line
Scale: 1:500
Metres
SHELTER EXTENDED OUT
RAISED
ADD PARKING
SAFER RIDING ENVIRONMENT
TO BE BUILT OVER
DINNING IN BAYS
WIDER FOOTPATHS
RAISED
EXTEND AWNING
PEDESTRIAN LIGHTING + DECORATIVE LIGHTING
MORE TREES BOTH SIDES BOULEVARD
NEED SHOP OWNERS TO INVEST IN THE LOOK OF SHOP
ADD ART TO BE MORE ATTRACTIVE
DRIVE SPEEDS TO SAFER LEVEL
ACTIVATE THIS SPACE WITH BUSINESS
MORE TREES ON BOTH SIDES (MAYBE REMOVE CENTRAL MEDIAN) BOULEVARD LOOK + LOCAL POCKET PARKS
ADD BREAK IN MEDIAN
NO BUSES ON EIGHTH
POP UP BUSINESSES IN EMPTY SHOPS
SHARED PARKING AT NIGHT
BE OPEN TO TRIALS/IDEAS
ADD BOLLARDS/OR GATES EITHER END FOR TEMPORARY CLOSURE
NEED ACTIVATION BUDGET
P/A TAP IN TIMES SIGNS + COFFEE SHOP!
Enough bike parking for cycling groups to stop for coffee
E-Bike Charging Station.
Forest Roxy Trees along 8th Ave
OPTION FOR ONE WAY
CYCLE TIMES? REDUCE NEED TO BE COORDINATED
Renegade Parking agreement. CCTV/Security lighting.
CHILDREN PLAY EQUIPMENT
"Activation event: Giro d'Maylands - explore the back lanes around Eighth Ave with lighting at night."
* Accommodate future TOD growth. density increases. This will ↑ Ped + Bike numbers so need to prepare for this.


Eighth Av
Roxby L
Greenslade L
Stillwell L
Guildford Rd
Whadjuk Cr
Midland Railway Line
Sargents L
Lynch L
Eliard L
Byrne L
Scale: 1:500
Metres


Eighth Av
Roxy L
Greenslade L
Stirling St
Level St
Guildford Rd
Sargents L
Lyric L
Ellard L
Whalley Cr
Midland Railway Line
Scale: 1:500
Metres

Whatley Crescent

Seventh Avenue

RAISED CROSSING

How many trucks + buses go round this corner? Can we narrow it so it's shorter for peds to cross?

RAMP DOWN ENCOURAGES CAR TO TURN IN AT SPEED

Don't ~~widen~~ widen when signalising? Or can we get longer 'green man' time to make crossing easier?

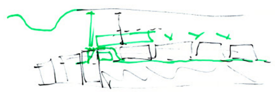
WAYFINDING SIGNAGE

Close either both or single way & open to peds, cyclists & buses only

mid-block closure or & activate w/ "parklets"

crest crossing pedestrian

same level parking + footpath



Bus Stops

Guildford Road

B

APPENDIX

Healthy Streets Design Checks (Existing)

SEVENTH AVENUE AND LYRIC LANE

EXISTING

Healthy Streets Score

Name of street

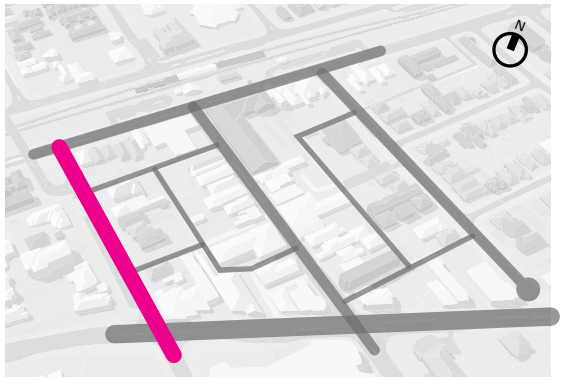
Seventh Ave

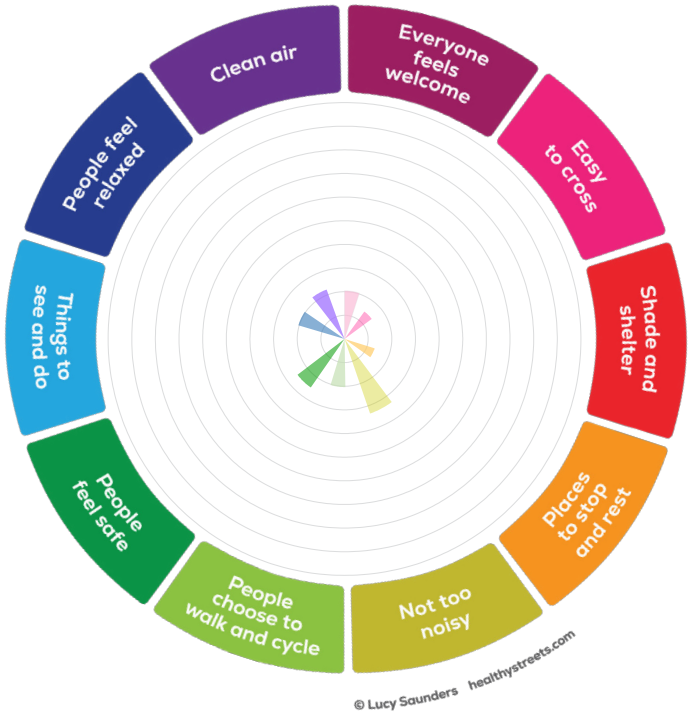
Name of street at start intersection

Guildford Rd

Name of street at end intersection

Whatley Cres





	Existing Layout Score	Proposed Layout Score
Healthy Streets Score	17	
Everyone feels welcome	20	
Easy to cross	14	
Shade and shelter	0	
Places to stop and rest	13	
Not too noisy	33	
People choose to walk and cycle	20	
People feel safe	25	
Things to see and do	0	
People feel relaxed	20	
Clean air	22	

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
1	**Traffic speed**	For the hour when vehicle speeds are highest the 85th percentile is below 30kph	For the hour when vehicle speeds are highest the 85th percentile is 30-39 kph	For the hour when vehicle speeds are highest the 85th percentile is 40-49 kph	For the hour when vehicle speeds are highest the 85th percentile is 50kph or more	info	0	**Posted speed limit is 50km/h (observed motorists driving at speed with aggression)**		
2	**Volume of motorised traffic**	For the hour when traffic volume is at its peak there are 199 or fewer vehicles (both directions)	For the hour when traffic volume is at its peak there are 200-499 vehicles (both directions)	For the hour when traffic volume is at its peak there are 500-999 vehicles (both directions)	For the hour when traffic volume is at its peak there are 1000 or more vehicles (both directions)	info	1	**573 vehicles between busiest hour in morning 0800-0900 (Data from MRWA)**		
3	**Mix of vehicles**	The only large vehicles using the street are public service vehicles, public transport and vehicles servicing properties on the street	The proportion of large vehicles (excluding public transport) is less than 1% in the peak hour	The proportion of large vehicles (excluding public transport) is 1-3% of motorised traffic in the peak hour	The proportion of large vehicles (excluding public transport) is greater than 3% of motorised traffic in the peak hour	info	1	**3% heavy vehicles (data from Main Roads WA 2021)**		
4	**Conflict between cycles and turning vehicles**	At the weakest intersection: Measures are in place to reduce the number and speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections all conflicting movements between cycles and turning motor vehicles have separated phases during the traffic signal cycle	At the weakest intersection: Measures are in place to reduce the number or speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle but mitigation measures are in place	At the weakest intersection: There are no restrictions on speed or number of turning movements by motor vehicles at intersections and other uncontrolled accesses but there is a space allocated to cycles	At the weakest intersection does not meet criteria in 1-3 i.e. At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle and there are no mitigation measures in place At uncontrolled intersections there are no restrictions on speed or number if turning movements by motor vehicles and there is no space allocated to cycles	info	0	**Vehicles turning off Guildford drive very aggressively to move between gaps in traffic. Very dangerous for people cycling**		
5	**Turning speeds at side-street intersections**	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and the carriageway is raised to the level of the footpath e.g. footway continuation or raised pedestrian crossing e.g. wombat crossing	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and instead of a raised carriageway at the intersection there are pram ramps on the desire line	The weakest side-street intersection has only pram ramps at the intersection and these are on the desire line	The weakest side-street intersection does not meet criteria in 1-3 i.e. has no pram ramps or pram ramps are not on the desire line	info	1	**car park entries on northern side are suffciently tight to slow vehicles. Score is undone by intersection with Seventh Ave bridge ramp, which has pram ramps on the desire line, but geometry is not tight and creates a total crossing distance of over 15m, with a median refuge, but single distance to the median is 7.5m**		
6	**Ease of crossing mid block**	See table	See table	See table	See table	info	0	**185m between Whatley and Seventh with no mid-block facilities. No crossing facilities on side streets either**		
7	**Priority of crossing at intersections**	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	info	0	**no pedestrian refuge on Seventh, therefore does not meet criteria for 1**		

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
8	**Quality of the footpath**	At the weakest point there is an even, level, non-slip surface	At the weakest point there is a non-slip surface without defects but it is not level	At the weakest point there are minor defects but none more than 14mm level difference	At the weakest point there is at least one major defect (a level difference of 15mm or more)	info	**2**	**Footpath is in reasonable condition, no major defects observed, some minor cracks near the St Josephs Church and some expansion joints have gaps but no larger than 14mm**		
9	**Space for walking**	At the weakest point the minimum clear walking space achieves A	At the weakest point the minimum clear walking space achieves B	At the weakest point the minimum clear walking space achieves C	At the weakest point the minimum clear walking space achieves D	info	**2**	**Counted 15ppl in 15 mins PM peak hour, meaning 60 per hour. Footpath measures at 2m wide uninterupted on both sides**		
10	**Appropriate separation of people walking from traffic**	At the weakest point the buffer achieves A	At the weakest point the buffer achieves B	At the weakest point the buffer achieves C	At the weakest point the buffer achieves D	info	**3**	**4.8m on southern side and 2.4m on northern side.**		
11	**Space for cycling**	At the weakest point: If the speed limit is greater than 30kph, cycles are physically separated from other traffic and the effective width of the track is more than 2.5m (1-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200 vehicles or fewer	At the weakest point: If the speed limit is greater than 30 kph, cycles are physically separated from other traffic and the effective width of the track is 2m - 2.5m (1-way) or 3.5m+ (2-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200-500 vehicles	At the weakest point: Cycles are separated from other traffic and the effective width of the lane/track is 1.8-2m (1-way) or 2.5 - 3.4m (2-way) effective width at its narrowest point. If the speed limit is 30kph cycles mix with general traffic if peak hour flow is more than 500 vehicles	At the weakest point does not meet criteria in 1-3 i.e. If cycles are separated from other traffic the track is less than 1.8m effective width at its narrowest point If the speed limit is above 30kph and cycles are mixing with general traffic or in an unseparated cycle lane on the carriageway	info	**0**	**no seperated cycle facilities, which is necessary given the 50km/h design speed**		
12	**Lighting**	At the weakest point lighting has been specifically designed to prioritise comfort and safety of people walking and cycling, the light quality has been specifically selected for colour and glare	At the weakest point there is purpose designed lighting provided to ensure safety of people walking and cycling	At the weakest point lighting has been designed for motor vehicle safety. Walking areas meet Australian Standards as a consequence of the carriageway being illuminated	At the weakest point does not meet criteria in 1-3 i.e. lighting of walking and/or cycling areas is absent or inconsistent (e.g. light is obstructed by planting) and does not meet Australian Standards	info	**1**	**lighting is okay, but no special lighting for footpaths. Could be an opportunity to explore when underground power comes in**		
13	**Availability of drinking water**	There is less than 400m to the nearest bubbler in every direction along the street from the centre point of this street	There is 400m to 799m to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 800m but less than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	info	**0**	**no water fountain on this street; nearest drinking fountain is on Eighth and Whatley about 180m walk from centrepoint of street. Others available in Donald Park (Sixth Avenue side) - 520m walk and physically seperated by rail - and two fountains available at the War Memorial Park infront of the Rise Building - 300m walk, Guildford Rd a physical barrier**		

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
14	**Public seating**	Assessing the full length of the street the longest distance between public seats on this street is less than 50m	Assessing the full length of the street the longest distance between public seats on this street is between 50m and 199m	Assessing the full length of the street the longest distance between public seats on this street is between 200m and 399m	Assessing the full length of the street the longest distance between public seats on this street is 400m or more	info	0	**no place to stop and rest on this street, with the exception of some steps (that are not suitable for elderly). Nearest seats available on Eighth approx. 80m walk**		
15	**Cycle parking**	Assessing the full length of the street the longest distance between available public cycle parking on this street is less than 50m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 50m and 199m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 200m and 399m and/or there is not step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is 400m or more	info	0	**no cycle parking on the street. About an 80m walk to nearest on Eighth (multiple locations)**		
16	**Shade for walking**	Assessing the full length of the street there is 90% or more linear coverage of walking space	Assessing the full length of the street there is 75-89% linear coverage of walking space	Assessing the full length of the street there is 50-74% linear coverage of walking space	Assessing the full length of the street there is less than 50% linear coverage of walking space	info	0	**Less than 10% linear coverage**		
17	**Shade for cycling**	Assessing the full length of the street there is 75% or more linear coverage of cycling space	Assessing the full length of the street there is 50-74% linear coverage of cycling space	Assessing the full length of the street there is 25-49% linear coverage of cycling space	Assessing the full length of the street there is less than 25% linear coverage of cycling space	info	0	**Less than 10% linear coverage**		
18	**Reducing through traffic**	Assessing the whole street there is no through-movement for private motorised traffic	Assessing the whole street through movement for private motorised vehicles is permitted but use of the side streets is indirect (i.e one way or requires at least 2 turns) AND	Assessing the whole street through movement for private motorised vehicles is permitted but speed limit is 30km/hr or below	Street does not meet criteria in 1-3 i.e. through movement for private motorised vehicles is permitted and speed limit is 40km/hr or above	info	0	**no restrictions on movement**		
					Are there any bus services running on this street? Yes/No		**No**			
19	**Bus stops**	At the weakest performing bus stop: There is sufficient waiting space based on peak patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for 25% of peak customers (or at least 4 people); step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: There is sufficient waiting space based on average patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for at least 4 people; step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: The bus stop has seating and rain and sun protection for at least 4 people	The weakest performing bus stop does not achieve criteria to score 1-3	info				

EXISTING

Healthy Streets Score

Name of street

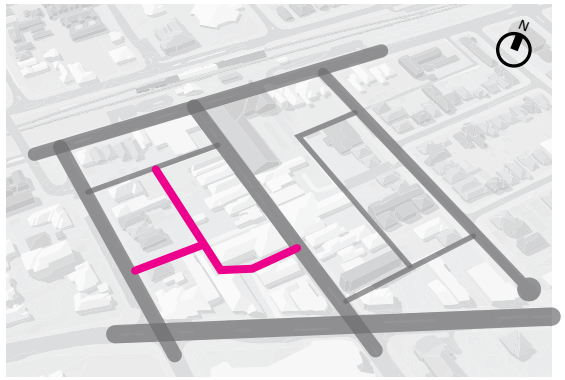
Lyric Lane and Sargents Lane

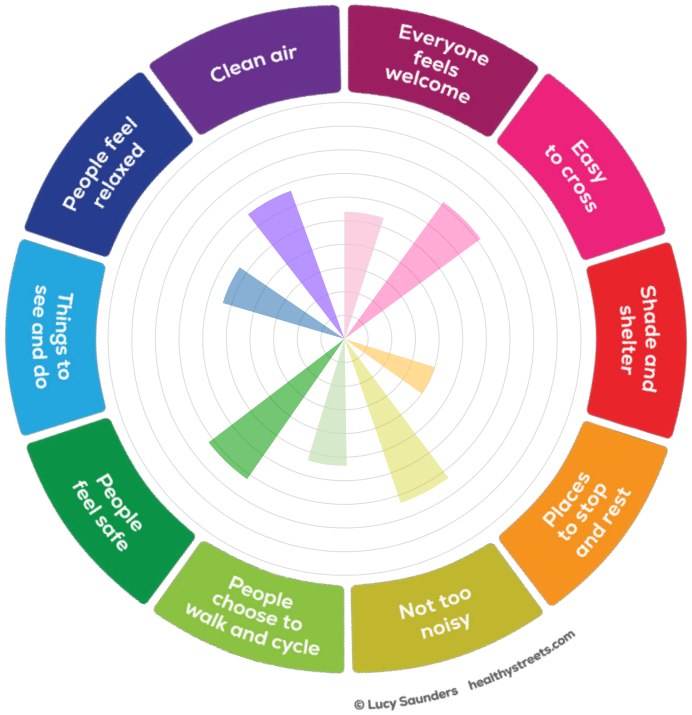
Name of street at start intersection

Seventh Ave

Name of street at end intersection

Eighth Ave





	Existing Layout Score	Proposed Layout Score
Healthy Streets Score	48	
Everyone feels welcome	54	
Easy to cross	71	
Shade and shelter	0	
Places to stop and rest	40	
Not too noisy	73	
People choose to walk and cycle	54	
People feel safe	72	
Things to see and do	0	
People feel relaxed	54	
Clean air	67	

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
1	**Traffic speed**	For the hour when vehicle speeds are highest the 85th percentile is below 30kph	For the hour when vehicle speeds are highest the 85th percentile is 30-39 kph	For the hour when vehicle speeds are highest the 85th percentile is 40-49 kph	For the hour when vehicle speeds are highest the 85th percentile is 50kph or more	info	**3**	**Design speed is below 30km/h**		
2	**Volume of motorised traffic**	For the hour when traffic volume is at its peak there are 199 or fewer vehicles (both directions)	For the hour when traffic volume is at its peak there are 200-499 vehicles (both directions)	For the hour when traffic volume is at its peak there are 500-999 vehicles (both directions)	For the hour when traffic volume is at its peak there are 1000 or more vehicles (both directions)	info	**2**	**Counted 20 vehicles in 15 mins from 1645 to 1700. Peak hour traffic volume therefore 100 (need to count in morning which might be busier, so will -1 from score to be conservative)**		
3	**Mix of vehicles**	The only large vehicles using the street are public service vehicles, public transport and vehicles servicing properties on the street	The proportion of large vehicles (excluding public transport) is less than 1% in the peak hour	The proportion of large vehicles (excluding public transport) is 1-3% of motorised traffic in the peak hour	The proportion of large vehicles (excluding public transport) is greater than 3% of motorised traffic in the peak hour	info	**1**	**No data, but expect the proportion is somewhere between 1-3% given delivery trucks for businesses etc.**		
4	**Conflict between cycles and turning vehicles**	At the weakest intersection: Measures are in place to reduce the number and speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections all conflicting movements between cycles and turning motor vehicles have separated phases during the traffic signal cycle	At the weakest intersection: Measures are in place to reduce the number or speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle but mitigation measures are in place	At the weakest intersection: There are no restrictions on speed or number of turning movements by motor vehicles at intersections and other uncontrolled accesses but there is a space allocated to cycles	At the weakest intersection does not meet criteria in 1-3 i.e. At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle and there are no mitigation measures in place At uncontrolled intersections there are no restrictions on speed or number if turning movements by motor vehicles and there is no space allocated to cycles	info	**3**	**As it is a laneway, the amount of cars accessing the side car parking aisles are low and they move with caution. It operates as a shared space, almost like a wide footpath**		
5	**Turning speeds at side-street intersections**	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and the carriageway is raised to the level of the footpath e.g. footway continuation or raised pedestrian crossing e.g. wombat crossing	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and instead of a raised carriageway at the intersection there are pram ramps on the desire line	The weakest side-street intersection has only pram ramps at the intersection and these are on the desire line	The weakest side-street intersection does not meet criteria in 1-3 i.e. has no pram ramps or pram ramps are not on the desire line	info	**1**	**cars operate faster than 5km/h when turning in from car parks (site observation). As the lane is a shared space no pram ramps are required.**		
6	**Ease of crossing mid block**	See table	See table	See table	See table	info	**3**	**no issues in people moving freely across shared space + distance between side streets is less than 100m**		
7	**Priority of crossing at intersections**	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	info	**3**	**Flush footpath continuation for all laneway exits**		

Scoring

Metrics		Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
8	**Quality of the footpath**	At the weakest point there is an even, level, non-slip surface	At the weakest point there is a non-slip surface without defects but it is not level	At the weakest point there are minor defects but none more than 14mm level difference	At the weakest point there is at least one major defect (a level difference of 15mm or more)	info	1	**Pavement (shared space) is in reasonable condition, but has some minor cracks around a drain near car park between Lyric Lane and Eighth Ave, that could be a trip hazard**		
9	**Space for walking**	At the weakest point the minimum clear walking space achieves A	At the weakest point the minimum clear walking space achieves B	At the weakest point the minimum clear walking space achieves C	At the weakest point the minimum clear walking space achieves D	info	3	**Counted 30ppl in 15 mins PM peak hour, meaning 120 per hour. Shared space laneway is 3.5m at weakest point**		
10	**Appropriate separation of people walking from traffic**	At the weakest point the buffer achieves A	At the weakest point the buffer achieves B	At the weakest point the buffer achieves C	At the weakest point the buffer achieves D	info	3	**no seperation required as laneway operates at 10km/h speeds**		
11	**Space for cycling**	At the weakest point: If the speed limit is greater than 30kph, cycles are physically separated from other traffic and the effective width of the track is more than 2.5m (1-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200 vehicles or fewer	At the weakest point: If the speed limit is greater than 30 kph, cycles are physically separated from other traffic and the effective width of the track is 2m - 2.5m (1-way) or 3.5m+ (2-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200-500 vehicles	At the weakest point: Cycles are separated from other traffic and the effective width of the lane/track is 1.8-2m (1-way) or 2.5 - 3.4m (2-way) effective width at its narrowest point. If the speed limit is 30kph cycles mix with general traffic if peak hour flow is more than 500 vehicles	At the weakest point does not meet criteria in 1-3 i.e. If cycles are separated from other traffic the track is less than 1.8m effective width at its narrowest point If the speed limit is above 30kph and cycles are mixing with general traffic or in an unseparated cycle lane on the carriageway	info	3	**3.5m wide shared space, low vehicle operating speeds**		
12	**Lighting**	At the weakest point lighting has been specifically designed to prioritise comfort and safety of people walking and cycling, the light quality has been specifically selected for colour and glare	At the weakest point there is purpose designed lighting provided to ensure safety of people walking and cycling	At the weakest point lighting has been designed for motor vehicle safety. Walking areas meet Australian Standards as a consequence of the carriageway being illuminated	At the weakest point does not meet criteria in 1-3 i.e. lighting of walking and/or cycling areas is absent or inconsistent (e.g. light is obstructed by planting) and does not meet Australian Standards	info	1	**some very good lighting in south-east (mostly provided by businesses). Remainder of lane well lit, but uses lights that are more suited to vehicles**		
13	**Availability of drinking water**	There is less than 400m to the nearest bubbler in every direction along the street from the centre point of this street	There is 400m to 799m to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 800m but less than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	info	0	**no water fountain on this street; nearest drinking fountain is on Eighth about 180m from centrepoint of Lane. Others available in Donald Park (Sixth Avenue side) - 580m walk and physically seperated by rail - and two fountains available at the War Memorial Park infront of the Rise Building - 250m walk, Guildford Rd a physical barrier**		

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
14	**Public seating**	Assessing the full length of the street the longest distance between public seats on this street is less than 50m	Assessing the full length of the street the longest distance between public seats on this street is between 50m and 199m	Assessing the full length of the street the longest distance between public seats on this street is between 200m and 399m	Assessing the full length of the street the longest distance between public seats on this street is 400m or more	info	0	**While there are businesses that offer seats, these are private and taken away at night. No public seating available**		
15	**Cycle parking**	Assessing the full length of the street the longest distance between available public cycle parking on this street is less than 50m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 50m and 199m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 200m and 399m and/or there is not step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is 400m or more	info	0	**no dedicated cycle parking in the laneway, altough there are plenty of informal places to chain bikes. Multiple cycle racks on Eighth only 60m walk**		
16	**Shade for walking**	Assessing the full length of the street there is 90% or more linear coverage of walking space	Assessing the full length of the street there is 75-89% linear coverage of walking space	Assessing the full length of the street there is 50-74% linear coverage of walking space	Assessing the full length of the street there is less than 50% linear coverage of walking space	info	0	**large expanse of lane uncovered. Only 20% shade cover from buildings**		
17	**Shade for cycling**	Assessing the full length of the street there is 75% or more linear coverage of cycling space	Assessing the full length of the street there is 50-74% linear coverage of cycling space	Assessing the full length of the street there is 25-49% linear coverage of cycling space	Assessing the full length of the street there is less than 25% linear coverage of cycling space	info	0	**large expanse of lane uncovered. Only 20% shade cover from buildings**		
18	**Reducing through traffic**	Assessing the whole street there is no through-movement for private motorised traffic	Assessing the whole street through movement for private motorised vehicles is permitted but use of the side streets is indirect (i.e one way or requires at least 2 turns) AND	Assessing the whole street through movement for private motorised vehicles is permitted but speed limit is 30km/hr or below	Street does not meet criteria in 1-3 i.e. through movement for private motorised vehicles is permitted and speed limit is 40km/hr or above	info	2	**one way lane in north-west. Vehicles move with caution**		
					Are there any bus services running on this street? Yes/No		**No**			
19	**Bus stops**	At the weakest performing bus stop: There is sufficient waiting space based on peak patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for 25% of peak customers (or at least 4 people); step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: There is sufficient waiting space based on average patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for at least 4 people; step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: The bus stop has seating and rain and sun protection for at least 4 people	The weakest performing bus stop does not achieve criteria to score 1-3	info				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APPENDIX

Healthy Streets Design Checks (Existing and Proposed Concepts)

WHATLEY CRESCENT; EIGHTH AVENUE AND GUILDFORD ROAD

EXISTING AND PROPOSED CONCEPT

Healthy Streets Score

Name of street

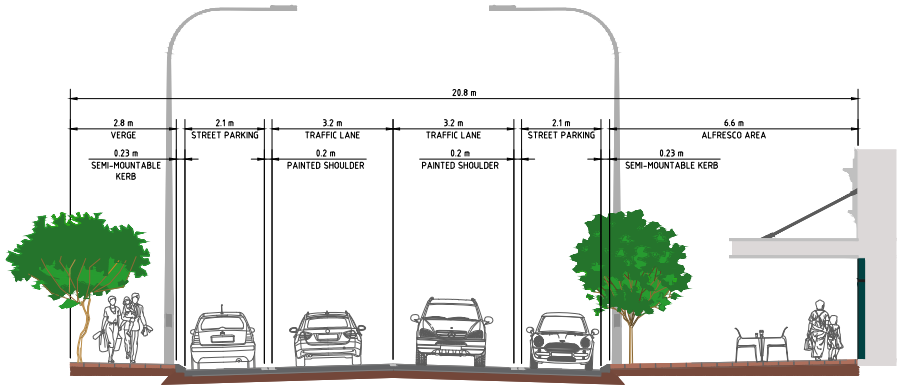
Whatley Crescent

Name of street at start intersection

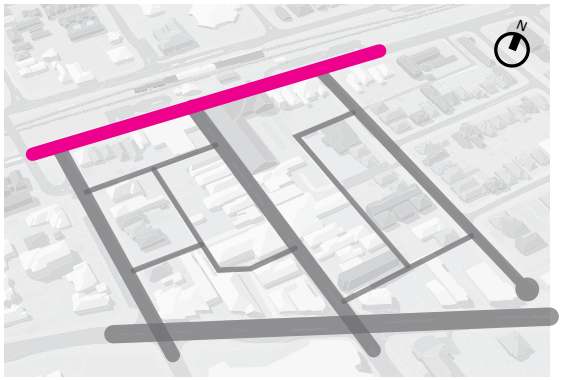
Seventh Avenue

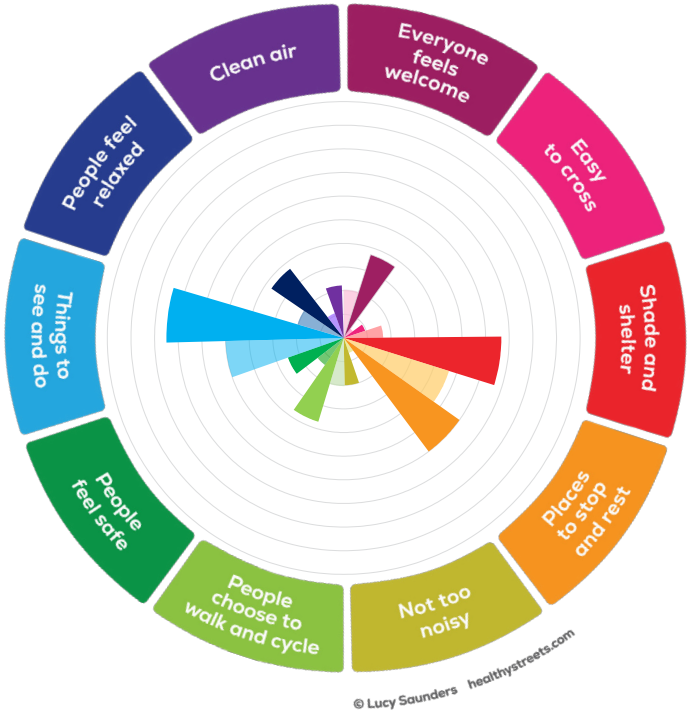
Name of street at end intersection

approx 50m east of Ninth Avenue (Land use changes)



TYPICAL CROSS SECTION - PROPOSED WHATLEY CRESCENT
1:50





	Existing Layout Score	Proposed Layout Score
Healthy Streets Score	21	39
Everyone feels welcome	20	37
Easy to cross	5	10
Shade and shelter	17	67
Places to stop and rest	47	60
Not too noisy	7	20
People choose to walk and cycle	20	37
People feel safe	14	25
Things to see and do	50	75
People feel relaxed	20	37
Clean air	11	22

Summary on Proposed Concept

What is good along this street:

- Quality of footpath (assuming it is upgraded)
- Space for walking
- Shade for walking
- Shad for cycling
- Availability of public drinking water
- Availability of public seating
- Cycle parking

What is not so good along this street:

- Traffic speed – 50km/h
- Traffic volume
- Mix of vehicles
- Turning speed at intersections and conflict with cycles
- Midblock crossings
- Priority of crossings (side streets and midblock)
- Separation between people walking and traffic
- Space for cycling
- Lighting
- Bus stop facilities

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
1	**Traffic speed**	For the hour when vehicle speeds are highest the 85th percentile is below 30kph	For the hour when vehicle speeds are highest the 85th percentile is 30-39 kph	For the hour when vehicle speeds are highest the 85th percentile is 40-49 kph	For the hour when vehicle speeds are highest the 85th percentile is 50kph or more	info	0	**posted speed limit is 60km/h**	1	**narrower traffic lanes, more activation on footpath and additional crossing points should reduce speeds through this area to below 50km/h**
2	**Volume of motorised traffic**	For the hour when traffic volume is at its peak there are 199 or fewer vehicles (both directions)	For the hour when traffic volume is at its peak there are 200-499 vehicles (both directions)	For the hour when traffic volume is at its peak there are 500-999 vehicles (both directions)	For the hour when traffic volume is at its peak there are 1000 or more vehicles (both directions)	info	0	**PM peak traffic volumes just over 1000vph (MRWA 2021 data)**	0	**The cross section design does not indicate a change to volume of traffic expected**
3	**Mix of vehicles**	The only large vehicles using the street are public service vehicles, public transport and vehicles servicing properties on the street	The proportion of large vehicles (excluding public transport) is less than 1% in the peak hour	The proportion of large vehicles (excluding public transport) is 1-3% of motorised traffic in the peak hour	The proportion of large vehicles (excluding public transport) is greater than 3% of motorised traffic in the peak hour	info	1	**proportion of heavy vehicles 3% north of Eighth and 2% to south (MRWA 2021 data)**	1	**The cross section design does not indicate a change to mix of vehicles**
4	**Conflict between cycles and turning vehicles**	At the weakest intersection: Measures are in place to reduce the number and speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections all conflicting movements between cycles and turning motor vehicles have separated phases during the traffic signal cycle	At the weakest intersection: Measures are in place to reduce the number or speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle but mitigation measures are in place	At the weakest intersection: There are no restrictions on speed or number of turning movements by motor vehicles at intersections and other uncontrolled accesses but there is a space allocated to cycles	At the weakest intersection does not meet criteria in 1-3 i.e. At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle and there are no mitigation measures in place At uncontrolled intersections there are no restrictions on speed or number if turning movements by motor vehicles and there is no space allocated to cycles	info	0	**no restrictions on turning speed or number of movements and no space allocated to cycles**	0	**as the PSP running alongside the rail line is the cycle infrastructure for the area, no additional cycle infrastructure is noted in the cross section design**
5	**Turning speeds at side-street intersections**	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and the carriageway is raised to the level of the footpath e.g. footway continuation or raised pedestrian crossing e.g. wombat crossing	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and instead of a raised carriageway at the intersection there are pram ramps on the desire line	The weakest side-street intersection has only pram ramps at the intersection and these are on the desire line	The weakest side-street intersection does not meet criteria in 1-3 i.e. has no pram ramps or pram ramps are not on the desire line	info	0	**weakest intersection is Ninth Ave, no narrowing, pram ramps poorly aligned taking person off desire line. On the north side of the street, the dual use path is setback far enough to not be impacted by car park entries**	0	**The cross section design does not indicate a change to side road intersections**
6	**Ease of crossing mid block**	See table	See table	See table	See table	info	0	**This would score a 3 by default if Ninth and Seventh Ave provided crossings, but they do not**	0	**additional crossings across Whately between ninth and Eighth scores well. However. the section between Eighth and Seventh does not indicate any additional crossing mid-block**

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
7	**Priority of crossing at intersections**	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	info	**0**	**Weakest intersection provided with a crossing is ninth no crossing priority and poor pram ramp. However, Seventh and Ninths are missing crossings over Whatley altogether**	**0**	**The cross section design does not indicate a change to priority for crossing at intersections for Ninth and Seventh**
8	**Quality of the footpath**	At the weakest point there is an even, level, non-slip surface	At the weakest point there is a non-slip surface without defects but it is not level	At the weakest point there are minor defects but none more than 14mm level difference	At the weakest point there is at least one major defect (a level difference of 15mm or more)	info	**1**	**slight defects in surface between Eighth and Seventh but not greater than 14mm**	**3**	**footpath to be upraded as part of project to extend footpath and narrow traffic lanes**
9	**Space for walking**	At the weakest point the minimum clear walking space achieves A	At the weakest point the minimum clear walking space achieves B	At the weakest point the minimum clear walking space achieves C	At the weakest point the minimum clear walking space achieves D	info	**0**	**less than 1.5m between alfresco dining, power pole and bike parking outside of no. 204. (MRWA 2021 data notes 213 people walking for peak hour 8am-9am)**	**2**	**Footpath extension for full distance between Seventh and Ninth would provide clear walking disctance of approx 3m**
10	**Appropriate separation of people walking from traffic**	At the weakest point the buffer achieves A	At the weakest point the buffer achieves B	At the weakest point the buffer achieves C	At the weakest point the buffer achieves D	info	**0**	**over 50km/h with no buffer**	**1**	**additional trees and planting to provide some seperation between walking and traffiic with aim to reduce speeds below 50km/h**
11	**Space for cycling**	At the weakest point: If the speed limit is greater than 30kph, cycles are physically separated from other traffic and the effective width of the track is more than 2.5m (1-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200 vehicles or fewer	At the weakest point: If the speed limit is greater than 30 kph, cycles are physically separated from other traffic and the effective width of the track is 2m - 2.5m (1-way) or 3.5m+ (2-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200-500 vehicles	At the weakest point: Cycles are separated from other traffic and the effective width of the lane/track is 1.8-2m (1-way) or 2.5 - 3.4m (2-way) effective width at its narrowest point. If the speed limit is 30kph cycles mix with general traffic if peak hour flow is more than 500 vehicles	At the weakest point does not meet criteria in 1-3 i.e. If cycles are separated from other traffic the track is less than 1.8m effective width at its narrowest point If the speed limit is above 30kph and cycles are mixing with general traffic or in an unseparated cycle lane on the carriageway	info	**0**	**no cycle infrastructure in this street**	**0**	**no cycle infrastructre to be provided on street**
12	**Lighting**	At the weakest point lighting has been specifically designed to prioritise comfort and safety of people walking and cycling, the light quality has been specifically selected for colour and glare	At the weakest point there is purpose designed lighting provided to ensure safety of people walking and cycling	At the weakest point lighting has been designed for motor vehicle safety. Walking areas meet Australian Standards as a consequence of the carriageway being illuminated	At the weakest point does not meet criteria in 1-3 i.e. lighting of walking and/or cycling areas is absent or inconsistent (e.g. light is obstructed by planting) and does not meet Australian Standards	info	**1**	**lighting has been designed for motor vehicle with walking areas meeting AS as a consequence. Some lights coming from shops at night, but it is not consistent across all sides so cannot be counted**	**1**	**The cross section design does not indicate additional lighting for people walking**
13	**Availability of drinking water**	There is less than 400m to the nearest bubbler in every direction along the street from the centre point of this street	There is 400m to 799m to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 800m but less than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	info	**3**	**Water fountain located in the middle no more than 120m from either end, corner of Whatley and Eighth**	**3**	**The cross section design does not indicate this will change**

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
14	**Public seating**	Assessing the full length of the street the longest distance between public seats on this street is less than 50m	Assessing the full length of the street the longest distance between public seats on this street is between 50m and 199m	Assessing the full length of the street the longest distance between public seats on this street is between 200m and 399m	Assessing the full length of the street the longest distance between public seats on this street is 400m or more	info	**2**	**seating availbale on corner of Eighth and Whatley no more than 120m either side**	**2**	**The cross section design does not indicate this will change**
15	**Cycle parking**	Assessing the full length of the street the longest distance between available public cycle parking on this street is less than 50m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 50m and 199m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 200m and 399m and/or there is not step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is 400m or more	info	**2**	**cycle parking generally every 50m, except from Seventh to neatest bike parking toward Eighth (about 80m). with pram ramps at intersection with Eighth and ninth avenue (within 15m approx) providing step free access for 3 bike racks. Bike parking in between Eighth and Ninth cannot be counted as no step free access**	**2**	**The cross section design does not indicate this will change**
16	**Shade for walking**	Assessing the full length of the street there is 90% or more linear coverage of walking space	Assessing the full length of the street there is 75-89% linear coverage of walking space	Assessing the full length of the street there is 50-74% linear coverage of walking space	Assessing the full length of the street there is less than 50% linear coverage of walking space	info	**1**	**between 50% and 74% shaded by shop awnings (170 / 285m = 60%)**	**2**	**additional street trees will provide additional shade for walking**
17	**Shade for cycling**	Assessing the full length of the street there is 75% or more linear coverage of cycling space	Assessing the full length of the street there is 50-74% linear coverage of cycling space	Assessing the full length of the street there is 25-49% linear coverage of cycling space	Assessing the full length of the street there is less than 25% linear coverage of cycling space	info	**0**	**no coverage of traffic lane for cycling**	**2**	**additional street trees will provide additional shade for cycling**
18	**Reducing through traffic**	Assessing the whole street there is no through-movement for private motorised traffic	Assessing the whole street through movement for private motorised vehicles is permitted but use of the side streets is indirect (i.e one way or requires at least 2 turns) AND speed limit is 30km/hr or below	Assessing the whole street through movement for private motorised vehicles is permitted but speed limit is 30km/hr or below	Street does not meet criteria in 1-3 i.e. through movement for private motorised vehicles is permitted and speed limit is 40km/hr or above	info	**0**	**no restrictions for through movements and speeds above 40km/h**	**0**	**no restrictions for through movements and speeds above 40km/h**
					Are there any bus services running on this street? Yes/No		**No**		**No**	
19	**Bus stops**	At the weakest performing bus stop: There is sufficient waiting space based on peak patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for 25% of peak customers (or at least 4 people); step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: There is sufficient waiting space based on average patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for at least 4 people; step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: The bus stop has seating and rain and sun protection for at least 4 people	The weakest performing bus stop does not achieve criteria to score 1-3	info				

EXISTING AND PROPOSED CONCEPT

Healthy Streets Score

Name of street

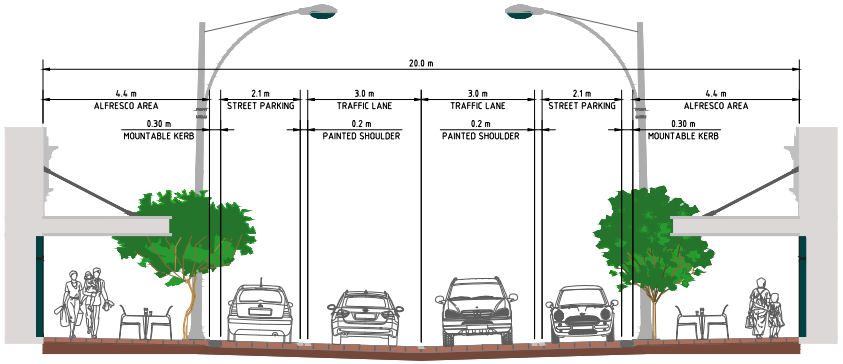
Eighth Ave

Name of street at start intersection

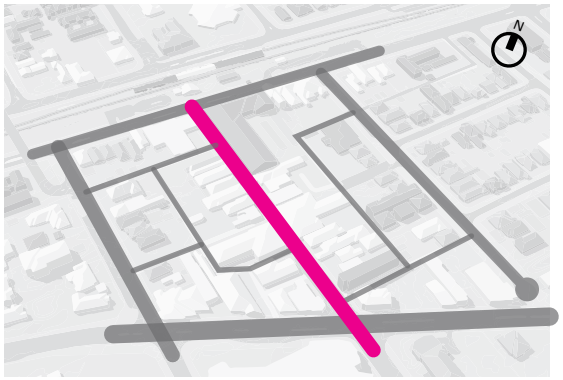
Guildford Road

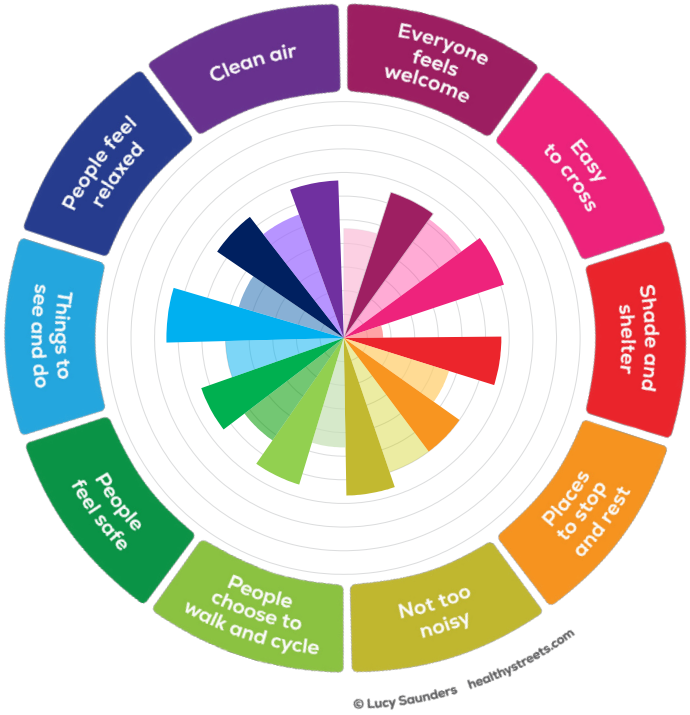
Name of street at end intersection

Whatley Cres



TYPICAL CROSS SECTION - PROPOSED EIGHTH AVENUE
1:50





	Existing Layout Score	Proposed Layout Score
Healthy Streets Score	48	66
Everyone feels welcome	46	65
Easy to cross	62	71
Shade and shelter	17	67
Places to stop and rest	47	60
Not too noisy	60	67
People choose to walk and cycle	46	65
People feel safe	53	64
Things to see and do	50	75
People feel relaxed	46	65
Clean air	56	67

Summary on Proposed Concept

What is good along this street:

- Reduced traffic speed – approx. 30km/h
- Low volume of traffic
- Low volume of larger vehicles (bus excepted)
- Turning speeds at side roads
- Easy to cross mid-block
- Quality of footpath (assuming it will be upgraded)
- Separation between people walking and traffic
- Space for cycling (on-road in a 30km/h environment)
- Availability of public drinking water
- Availability of public seating
- Cycle parking
- Shade for walking and cycling

What is not so good along this street:

- Conflict with turning vehicles and cycles
- Priority crossing at intersections
- Space for walking
- Lighting

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
1	**Traffic speed**	For the hour when vehicle speeds are highest the 85th percentile is below 30kph	For the hour when vehicle speeds are highest the 85th percentile is 30-39 kph	For the hour when vehicle speeds are highest the 85th percentile is 40-49 kph	For the hour when vehicle speeds are highest the 85th percentile is 50kph or more	info	1	**Posted speed limit is 40km/h and one could definitely drive this fast outside of busy hours**	2	**the design's aim is to restrict speed to closer to 30km/h along its length**
2	**Volume of motorised traffic**	For the hour when traffic volume is at its peak there are 199 or fewer vehicles (both directions)	For the hour when traffic volume is at its peak there are 200-499 vehicles (both directions)	For the hour when traffic volume is at its peak there are 500-999 vehicles (both directions)	For the hour when traffic volume is at its peak there are 1000 or more vehicles (both directions)	info	2	**Counted 95 vehicles in 15 mins from 1645 to 1700. Peak hour traffic volume therefore 380. MRWA 2021 data counts 424 toward Whatley for same hour**	2	**kept the same, as the design may reduce some traffic that avoids the area due to slower speed, but may attract other traffic from people wishing to come to the area, plus future development in the area may also add traffic to the street slightly**
3	**Mix of vehicles**	The only large vehicles using the street are public service vehicles, public transport and vehicles servicing properties on the street	The proportion of large vehicles (excluding public transport) is less than 1% in the peak hour	The proportion of large vehicles (excluding public transport) is 1-3% of motorised traffic in the peak hour	The proportion of large vehicles (excluding public transport) is greater than 3% of motorised traffic in the peak hour	info	2	**MRWA 2021 data states 1% at Whatley intersection and 0% at Guildford Rd**	2	**assume to remain the same**
4	**Conflict between cycles and turning vehicles**	At the weakest intersection: Measures are in place to reduce the number and speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections all conflicting movements between cycles and turning motor vehicles have separated phases during the traffic signal cycle	At the weakest intersection: Measures are in place to reduce the number or speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle but mitigation measures are in place	At the weakest intersection: There are no restrictions on speed or number of turning movements by motor vehicles at intersections and other uncontrolled accesses but there is a space allocated to cycles	At the weakest intersection does not meet criteria in 1-3 i.e. At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle and there are no mitigation measures in place At uncontrolled intersections there are no restrictions on speed or number if turning movements by motor vehicles and there is no space allocated to cycles	info	0	**No protection in place at either intersection, no dedicated space for cyclists in the street**	0	**the cross section design does not indicate that there will be cycle infrasrtcuture/space allocated to cycles**
5	**Turning speeds at side-street intersections**	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and the carriageway is raised to the level of the footpath e.g. footway continuation or raised pedestrian crossing e.g. wombat crossing	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and instead of a raised carriageway at the intersection there are pram ramps on the desire line	The weakest side-street intersection has only pram ramps at the intersection and these are on the desire line	The weakest side-street intersection does not meet criteria in 1-3 i.e. has no pram ramps or pram ramps are not on the desire line	info	3	**Footpath runs straight across side street entries with step free access and adequately provides priority for people walking. Side street entry near IGA over 9m wide, which is larger than the 7m limit to be classed as 'narrow'**	3	**pedestrian priority at side streets will remain**
6	**Ease of crossing mid block**	See table	See table	See table	See table	info	3	**step free access wombat crossing. 100m to Whatley Cres. 127m to Guildford.**	3	**step free access will reamain wombat crossing will remain**
7	**Priority of crossing at intersections**	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	info	1	**60 second wait time to cross Guildford Road signalised intersection**	2	**the proposed signal chnages to parrallel walks should improve wait time**

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
8	**Quality of the footpath**	At the weakest point there is an even, level, non-slip surface	At the weakest point there is a non-slip surface without defects but it is not level	At the weakest point there are minor defects but none more than 14mm level difference	At the weakest point there is at least one major defect (a level difference of 15mm or more)	info	0	**mostly good, safe and quality footpath. But some service trenches not maintained and have made trip hazards, outside no. 69 and no. 38**	3	**assumed that the footpath will be upgraded where needed to remove trip hazards**
9	**Space for walking**	At the weakest point the minimum clear walking space achieves A	At the weakest point the minimum clear walking space achieves B	At the weakest point the minimum clear walking space achieves C	At the weakest point the minimum clear walking space achieves D	info	0	**Counted 256 people in 15 mins from 1645 to 1700. Equating to 1,024 people in the peak hour. 3m wide footpaths throughout, but reduces to 2.0m at weakest point to dodge chairs and bins at no. 61**	0	**the cross section design does not indicate a clear walking path in addition to the proposed alfresco area**
10	**Appropriate separation of people walking from traffic**	At the weakest point the buffer achieves A	At the weakest point the buffer achieves B	At the weakest point the buffer achieves C	At the weakest point the buffer achieves D	info	3	**Posted speed limit of 40km/h requires 1.65m or more for A, more than 2m provided at weakest point**	3	**on street parking, street trees etc will maintin the same seperation for people walking from traffic**
11	**Space for cycling**	At the weakest point: If the speed limit is greater than 30kph, cycles are physically separated from other traffic and the effective width of the track is more than 2.5m (1-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200 vehicles or fewer	At the weakest point: If the speed limit is greater than 30 kph, cycles are physically separated from other traffic and the effective width of the track is 2m - 2.5m (1-way) or 3.5m+ (2-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200-500 vehicles	At the weakest point: Cycles are separated from other traffic and the effective width of the lane/track is 1.8-2m (1-way) or 2.5 - 3.4m (2-way) effective width at its narrowest point. If the speed limit is 30kph cycles mix with general traffic if peak hour flow is more than 500 vehicles	At the weakest point does not meet criteria in 1-3 i.e. If cycles are separated from other traffic the track is less than 1.8m effective width at its narrowest point If the speed limit is above 30kph and cycles are mixing with general traffic or in an unseparated cycle lane on the carriageway	info	0	**the speed limit is above 30km/h with no dedicated cycle facilities**	2	**traffic speed aim is 30km/h and with simialr traffic volumes likely, people on bikes can mix with traffic**
12	**Lighting**	At the weakest point lighting has been specifically designed to prioritise comfort and safety of people walking and cycling, the light quality has been specifically selected for colour and glare	At the weakest point there is purpose designed lighting provided to ensure safety of people walking and cycling	At the weakest point lighting has been designed for motor vehicle safety. Walking areas meet Australian Standards as a consequence of the carriageway being illuminated	At the weakest point does not meet criteria in 1-3 i.e. lighting of walking and/or cycling areas is absent or inconsistent (e.g. light is obstructed by planting) and does not meet Australian Standards	info	1	**no dedicated lighting designed specifically for people walking**	1	**the cross section design does not indicate any lighting specifically for people walking**
13	**Availability of drinking water**	There is less than 400m to the nearest bubbler in every direction along the street from the centre point of this street	There is 400m to 799m to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 800m but less than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	info	3	**water fountain and drink bottle filler available on north side of Eighth near Whatley traffic signals**	3	**this is not expected to change**
14	**Public seating**	Assessing the full length of the street the longest distance between public seats on this street is less than 50m	Assessing the full length of the street the longest distance between public seats on this street is between 50m and 199m	Assessing the full length of the street the longest distance between public seats on this street is between 200m and 399m	Assessing the full length of the street the longest distance between public seats on this street is 400m or more	info	2	**longest distance with no seating is 70m south side on approach to Guildford. All other spacing is less than 50m**	2	**the cross section design does not indicate any additional public seating to what is currently available**

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
15	Cycle parking	Assessing the full length of the street the longest distance between available public cycle parking on this street is less than 50m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 50m and 199m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 200m and 399m and/or there is not step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is 400m or more	info	2	cycle parking available at multiple intervals both sides of the street generally 80m apart, with longest on north side at 130m	2	the cross section design does not indicate any additional cycle parking to what is currently available
16	Shade for walking	Assessing the full length of the street there is 90% or more linear coverage of walking space	Assessing the full length of the street there is 75-89% linear coverage of walking space	Assessing the full length of the street there is 50-74% linear coverage of walking space	Assessing the full length of the street there is less than 50% linear coverage of walking space	info	1	88% coverage on north side (205m / 235m). 52% on south side (116m / 225m)	2	the cross section deisgn indicates more trees and shop canopy will be provided
17	Shade for cycling	Assessing the full length of the street there is 75% or more linear coverage of cycling space	Assessing the full length of the street there is 50-74% linear coverage of cycling space	Assessing the full length of the street there is 25-49% linear coverage of cycling space	Assessing the full length of the street there is less than 25% linear coverage of cycling space	info	0	for southern carrigeway, less than 10% coverage	2	the cross section deisgn indicates more trees will be provided which should shade the road for people riding on-road
18	Reducing through traffic	Assessing the whole street there is no through-movement for private motorised traffic	Assessing the whole street through movement for private motorised vehicles is permitted but use of the side streets is indirect (i.e one way or requires at least 2 turns) AND	Assessing the whole street through movement for private motorised vehicles is permitted but speed limit is 30km/hr or below	Street does not meet criteria in 1-3 i.e. through movement for private motorised vehicles is permitted and speed limit is 40km/hr or above	info	1	no restrictions on vehicle movement	1	through movement will continue but at a safer speed
					Are there any bus services running on this street? Yes/No		No		No	
19	Bus stops	At the weakest performing bus stop: There is sufficient waiting space based on peak patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for 25% of peak customers (or at least 4 people); step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: There is sufficient waiting space based on average patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for at least 4 people; step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: The bus stop has seating and rain and sun protection for at least 4 people	The weakest performing bus stop does not achieve criteria to score 1-3	info				

EXISTING AND PROPOSED CONCEPT

Healthy Streets Score

Name of street

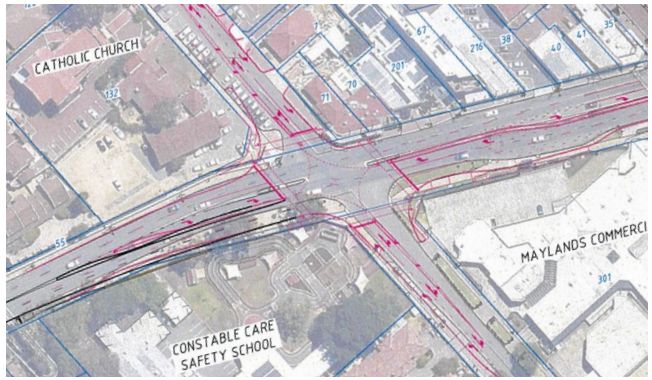
Guildford Road

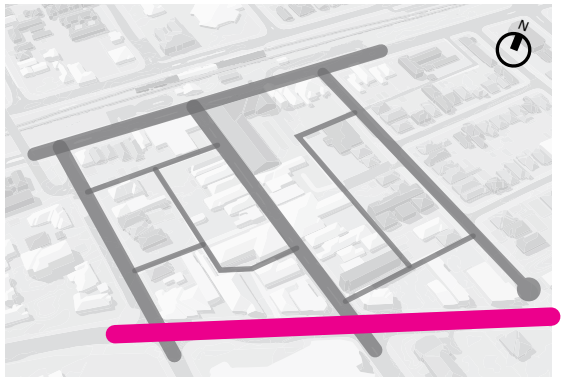
Name of street at start intersection

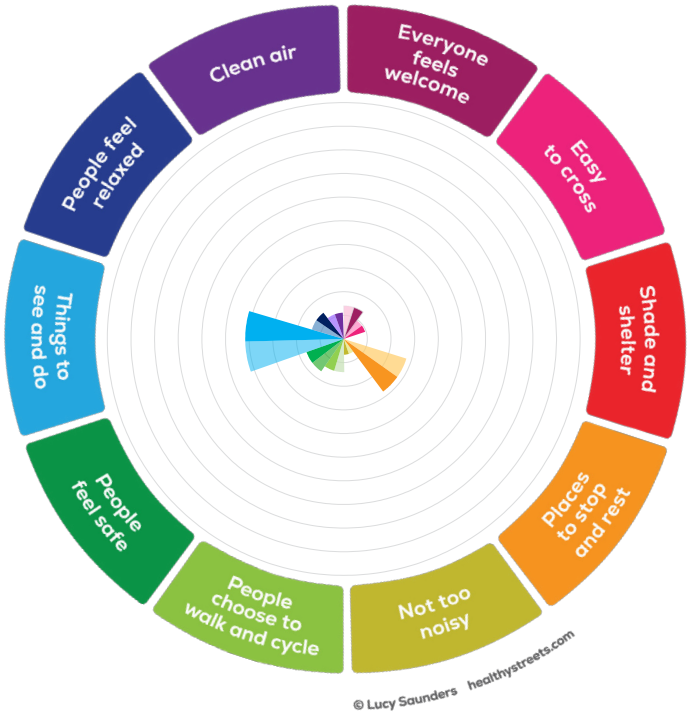
Eighth Avenue

Name of street at end intersection

Seventh Avenue







	Existing Layout Score	Proposed Layout Score
Healthy Streets Score	16	16
Everyone feels welcome	14	14
Easy to cross	10	10
Shade and shelter	0	0
Places to stop and rest	28	28
Not too noisy	7	7
People choose to walk and cycle	14	14
People feel safe	17	17
Things to see and do	42	42
People feel relaxed	14	14
Clean air	11	11

Summary on Proposed Concept

What is good along this street:

- Availability of drinking water
- Public seating

What is not so good along this street:

- Traffic speed – 60km/h
- Traffic volume
- Mix of vehicles
- No cycle infrastructure at intersections
- Separation between people walking and traffic
- Difficult to cross
- Space for cycling
- Shade for walking
- Lighting
- Bus stop facilities

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
1	**Traffic speed**	For the hour when vehicle speeds are highest the 85th percentile is below 30kph	For the hour when vehicle speeds are highest the 85th percentile is 30-39 kph	For the hour when vehicle speeds are highest the 85th percentile is 40-49 kph	For the hour when vehicle speeds are highest the 85th percentile is 50kph or more	info	**0**	**speed limit is 60km/h**	**0**	**No change - traffic approaching at 60km/h getting a green signal will continue through at that speed**
2	**Volume of motorised traffic**	For the hour when traffic volume is at its peak there are 199 or fewer vehicles (both directions)	For the hour when traffic volume is at its peak there are 200-499 vehicles (both directions)	For the hour when traffic volume is at its peak there are 500-999 vehicles (both directions)	For the hour when traffic volume is at its peak there are 1000 or more vehicles (both directions)	info	**0**	**peak hour traffic volume 1009 (MRWA 2021 data)**	**0**	**No change**
3	**Mix of vehicles**	The only large vehicles using the street are public service vehicles, public transport and vehicles servicing properties on the street	The proportion of large vehicles (excluding public transport) is less than 1% in the peak hour	The proportion of large vehicles (excluding public transport) is 1-3% of motorised traffic in the peak hour	The proportion of large vehicles (excluding public transport) is greater than 3% of motorised traffic in the peak hour	info	**1**	**3% HV (MRWA 2021 data)**	**1**	**No change**
4	**Conflict between cycles and turning vehicles**	At the weakest intersection: Measures are in place to reduce the number and speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections all conflicting movements between cycles and turning motor vehicles have separated phases during the traffic signal cycle	At the weakest intersection: Measures are in place to reduce the number or speed of turning movements by motor vehicles at intersections and driveway cross-overs AND At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle but mitigation measures are in place	At the weakest intersection: There are no restrictions on speed or number of turning movements by motor vehicles at intersections and other uncontrolled accesses but there is a space allocated to cycles	At the weakest intersection does not meet criteria in 1-3 i.e. At signal controlled intersections cycle movements do not have separate phases during the traffic signal cycle and there are no mitigation measures in place At uncontrolled intersections there are no restrictions on speed or number if turning movements by motor vehicles and there is no space allocated to cycles	info	**0**	**no restrictions on speed or volume and no space allocated for cycles; does not meet criteria for 1**	**0**	**No change**
5	**Turning speeds at side-street intersections**	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and the carriageway is raised to the level of the footpath e.g. footway continuation or raised pedestrian crossing e.g. wombat crossing	The weakest side-street intersection has a narrow, tight geometry such that a turning motorised vehicle must slow down to less than 5 km/hr and instead of a raised carriageway at the intersection there are pram ramps on the desire line	The weakest side-street intersection has only pram ramps at the intersection and these are on the desire line	The weakest side-street intersection does not meet criteria in 1-3 i.e. has no pram ramps or pram ramps are not on the desire line	info	**1**	**small car park entry the only side street (no. 183 Guildford Rd). Vehicles can only turn in and not out. Footpath goes straight across for priority of people walking. Geometry is tight, but entry is wide enough to turn at speed (7.5m)**	**1**	**No change**
6	**Ease of crossing mid block**	See table	See table	See table	See table	info	**0**	**Distance between intersections is 100m and would score a 3 by default if a crossing was provided on north side of Seventh Ave and south side of Ninth Ave. As they do not exist, it must be measured as 0. Vehicle speeds and volumes too dangerous to navigate**	**0**	**No change to Ninth Avenue south side**

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
7	**Priority of crossing at intersections**	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	Score using tables for intersections crossing side streets and main roads and use the lower of the 2 scores if they differ	info	0	**intersection of Ninth ave has no priority or refuge and fast turning speeds**	0	**No change**
8	**Quality of the footpath**	At the weakest point there is an even, level, non-slip surface	At the weakest point there is a non-slip surface without defects but it is not level	At the weakest point there are minor defects but none more than 14mm level difference	At the weakest point there is at least one major defect (a level difference of 15mm or more)	info	0	**damaged footpath near to car park entrance greater than 15mm, particularly around services**	0	**No change**
9	**Space for walking**	At the weakest point the minimum clear walking space achieves A	At the weakest point the minimum clear walking space achieves B	At the weakest point the minimum clear walking space achieves C	At the weakest point the minimum clear walking space achieves D	info	0	**a power pole reduces footpath width to 1.2m, where slip lane squeezes path width approaching Eighth on northern side. MRWA 2021 data notes 103 people in busiest hour from 230pm to 330pm (school activity?)**	0	**No change**
10	**Appropriate separation of people walking from traffic**	At the weakest point the buffer achieves A	At the weakest point the buffer achieves B	At the weakest point the buffer achieves C	At the weakest point the buffer achieves D	info	0	**no buffer or seperation between people walking and traffic lane on the north side**	0	**No change**
11	**Space for cycling**	At the weakest point: If the speed limit is greater than 30kph, cycles are physically separated from other traffic and the effective width of the track is more than 2.5m (1-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200 vehicles or fewer	At the weakest point: If the speed limit is greater than 30 kph, cycles are physically separated from other traffic and the effective width of the track is 2m - 2.5m (1-way) or 3.5m+ (2-way) at the narrowest point If the speed limit is 30kph or lower, cycles mix with general traffic if peak hour flow is 200-500 vehicles	At the weakest point: Cycles are separated from other traffic and the effective width of the lane/track is 1.8-2m (1-way) or 2.5 - 3.4m (2-way) effective width at its narrowest point. If the speed limit is 30kph cycles mix with general traffic if peak hour flow is more than 500 vehicles	At the weakest point does not meet criteria in 1-3 i.e. If cycles are separated from other traffic the track is less than 1.8m effective width at its narrowest point If the speed limit is above 30kph and cycles are mixing with general traffic or in an unseparated cycle lane on the carriageway	info	0	**no cycle space provided, as such, cyclists would have to mix with traffic or pedestrians**	0	**No change**
12	**Lighting**	At the weakest point lighting has been specifically designed to prioritise comfort and safety of people walking and cycling, the light quality has been specifically selected for colour and glare	At the weakest point there is purpose designed lighting provided to ensure safety of people walking and cycling	At the weakest point lighting has been designed for motor vehicle safety. Walking areas meet Australian Standards as a consequence of the carriageway being illuminated	At the weakest point does not meet criteria in 1-3 i.e. lighting of walking and/or cycling areas is absent or inconsistent (e.g. light is obstructed by planting) and does not meet Australian Standards	info	1	**lighting has been designed for traffic on the road and the walking areas meet AS as a consequence**	1	**No change**
13	**Availability of drinking water**	There is less than 400m to the nearest bubbler in every direction along the street from the centre point of this street	There is 400m to 799m to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 800m but less than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	There is more than 1.2 km to the nearest bubbler in every direction along the street from the centre point of this street	info	3	**Two Water bubblers available in War Memorial Gardens outside RISE Building, one with a dog bowl (entire street segment less than 250m)**	3	**No change**

Scoring

	Metrics	Score				How do I measure this?	Existing layout	Notes on existing layout scores	Proposed layout	Notes on proposed layout scores
		3	2	1	0					
14	**Public seating**	Assessing the full length of the street the longest distance between public seats on this street is less than 50m	Assessing the full length of the street the longest distance between public seats on this street is between 50m and 199m	Assessing the full length of the street the longest distance between public seats on this street is between 200m and 399m	Assessing the full length of the street the longest distance between public seats on this street is 400m or more	info	**2**	**seat at the bus stop on the south side and next availbale seat in on Eighth Ave approx 160m away**	**2**	**No change**
15	**Cycle parking**	Assessing the full length of the street the longest distance between available public cycle parking on this street is less than 50m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 50m and 199m and there is step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is between 200m and 399m and/or there is not step free access	Assessing the full length of the street the longest distance between available public cycle parking on this street is 400m or more	info	**0**	**no cycle parking on this street**	**0**	**No change**
16	**Shade for walking**	Assessing the full length of the street there is 90% or more linear coverage of walking space	Assessing the full length of the street there is 75-89% linear coverage of walking space	Assessing the full length of the street there is 50-74% linear coverage of walking space	Assessing the full length of the street there is less than 50% linear coverage of walking space	info	**0**	**less than 10% shade**	**0**	**No change**
17	**Shade for cycling**	Assessing the full length of the street there is 75% or more linear coverage of cycling space	Assessing the full length of the street there is 50-74% linear coverage of cycling space	Assessing the full length of the street there is 25-49% linear coverage of cycling space	Assessing the full length of the street there is less than 25% linear coverage of cycling space	info	**0**	**less than 10% shade**	**0**	**No change**
18	**Reducing through traffic**	Assessing the whole street there is no through-movement for private motorised traffic	Assessing the whole street through movement for private motorised vehicles is permitted but use of the side streets is indirect (i.e one way or requires at least 2 turns) AND speed limit is 30km/hr or below	Assessing the whole street through movement for private motorised vehicles is permitted but speed limit is 30km/hr or below	Street does not meet criteria in 1-3 i.e. through movement for private motorised vehicles is permitted and speed limit is 40km/hr or above	info	**0**	**through movement for private vehicles is permitted at 60km/h**	**0**	**No change**
					Are there any bus services running on this street? Yes/No		**Yes**		**Yes**	
19	**Bus stops**	At the weakest performing bus stop: There is sufficient waiting space based on peak patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for 25% of peak customers (or at least 4 people); step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: There is sufficient waiting space based on average patronage that is clear of the walking space; the bus stop has seating; rain and sun protection for at least 4 people; step free access and safe crossing of any cycleways to access the stop	At the weakest performing bus stop: The bus stop has seating and rain and sun protection for at least 4 people	The weakest performing bus stop does not achieve criteria to score 1-3	info	**0**	**weakest bus stop in on north side with no seating or shelter**	**0**	**No change**

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