

Walking and Cycling Strategy

TO IMPROVE AND INCREASE WALKING AND CYCLING IN THE SHIRE
2010–2020



1 Executive Summary



This Strategy sets out a strategic approach for Mount Alexander Shire Council to improve and increase walking¹ and cycling in the Shire over the next decade. In the 2007-08 budget \$20,000 was allocated to consult with the community and develop a walking and cycling Strategy. A steering committee comprising Council and community members with interests in walking and cycling for transport and recreation has guided the development of this Strategy.

The following concepts have been developed to assist with clarifying and prioritising work around walking and cycling. They are:

Three zones around key population centres across the Shire.

- **A Town Centre Zone** – focused on the key shopping/activity centre of a township
- **A Walking Zone** – A 2.5 km radius around a town centre based on an approximate manageable² 30 minute walk
- **A Cycling Zone** – A 5 km radius around a town centre based on an approximate manageable 30 minute ride

Three independent and interconnected networks for walkers and cyclists.

- **The Footpath Network** – Beside road, primarily for walkers
- **The Bike Lane Network** – On road for cyclists
- **The Trail Network** – Off-road for walkers and cyclists

Primary and Secondary routes for each Network.

The most important routes on each network are identified as “Primary Routes”. These routes will carry the most walking or cycling traffic and will be of the highest standard. “Secondary Routes” are those that still play a connection role for walkers or cyclists but do not carry as high a volume of traffic as Primary Routes. The design guidelines for Secondary Routes will therefore not be as stringent as for Primary Routes.

Maps of the Primary and Secondary routes for the three networks were developed as a part of this Strategy. These maps were displayed as a part of the community consultation process, and have been amended in response to community feedback.

Each network has been analysed for its ability to:

- Be **connected** to the places that people want to get to and from,
- Be of sufficient **quality** with appropriate facilities
- Provide safety when **crossing** roads and interacting with other traffic
- Be **inviting**, attractive and convivial
- Be **clear** and easy to understand

And detailed approaches to improving these conditions are laid out under these headings.

An extensive community consultation was conducted in October 2009. This consultation:

- Checked the strategic approach of the Strategy against community expectations
- Identified priority issues for the community and added any issues not dealt with in the draft Strategy (Sept 2009)
- Identified priority routes for each network that were amended into the associated maps
- Identified specific areas of concern (i.e. tripping risk on Main St)
- Gathered baseline data on walking and cycling in the community to be included in the final Strategy



1 Executive Summary



The input and data from the community consultation has been written up into a Community Consultation Report. The valuable feedback from the community has been considered by the steering committee and has been worked into the Strategy where appropriate.

To assist with delivery, the actions in this Strategy are detailed in a Task List, which is attached to this document.



The bike train ride at 'Festival of the Wheel' - Castlemaine Botanical Gardens 2008





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2 Introduction



2.1 OUR SHIRE

Mount Alexander Shire is located in the goldfields region of central Victoria, Australia, and covers an area of 1,439 sq km. We are a diverse Shire with a range of transport and recreation habits across our urban and rural communities. Walking and cycling are important transport options and popular recreational activities in our Shire.

Our towns and surrounding areas are of national historic and environmental significance, making the Shire an attractive location for residents as well as tourists from all over the country to walk and cycle around.

2.2 DEFINING WALKING AND CYCLING

Throughout this document the word 'walking' will be used to define the basic form of mobility available to each individual. This therefore includes those who 'walk' with the aid of a stick or frame, a wheelchair or a motorised mobility aid.

Cycling will take in all non-motorised wheeled transport (bikes, trikes, scooters etc.) not defined as 'wheeled recreational devices'³ in the road rules. Bicycles with an auxiliary source of power (petrol or electric) under 200 watts are also included in the category of 'bicycle' under the road rules.

2.3 WHY WALKING AND CYCLING ARE IMPORTANT

Walking is the foundation of our transport system, it is accessible to all, it is free and it is good for our health. Our first steps as children are significant as they represent the beginning of independent mobility and our ability to move around our community. Walking is so fundamental that sometimes we overlook it, but every trip no matter how long begins and ends with walking.

Cycling, like walking is good for our health and costs little. Cycling is a quiet, clean way to get around that has the benefit of increased speed and range. Despite being more than 130 years old the bicycle is still the most efficient form of transport ever invented.⁴

When walking and cycling replace car trips they minimise our environmental impact, reduce our dependence on fossil fuels and make our community more financially independent while supporting our local economy.⁵ Walking and cycling are also good for our social health. People who live in places that are good to walk around have stronger social connections.⁶ Walking and cycling for mobility and exercise are of increasing importance as our population ages.

Walking and cycling are popular forms of transport and recreation in the Shire. The community's desire for more and better facilities for walking and cycling has been noted in the 2009 Customer Satisfaction Survey and in the Community Consultation and Survey associated with this Strategy in October 2009.

Walking and cycling are also popular recreational activities that improve individual health and fitness and generally have positive benefits for the community. Tourism experiences based around walking and cycling are already important in the region and present a fantastic area for growth and development.

We are all walkers at some point in every journey, and the majority of us ride at some time in our lives. We all benefit when the place we live in is good to walk and ride around.

This Strategy is for the benefit of residents and visitors alike in Mount Alexander Shire.



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2.4 POLICY CONTEXT

The community of Mount Alexander identified walking and cycling as important areas for improvement through the 'Map 2020' Community Plan process. The plan calls for:

- Footpaths that are developed, accessible and safe
- Improvements in pedestrian and cycle infrastructure that will create continuous routes
- The development of green travel plans for workplaces, schools and communities

The Council Plan 2009-2013, Greenhouse Action Plan 2007 – 2010 and Road Safety Strategy 2004 all identify the need to develop a Walking and Cycling Strategy that will improve our transport system.

The Victorian Transport Plan 2008 makes "building a more sustainable transport system" a priority by "using less polluting forms of transport more often". It notes that, "the key is shifting behaviour towards greener travel options".

The Victorian Cycling Strategy 2009 has a vision for cycling as a "safe, readily available, convenient and preferred transport option for Victorians", and also recognises "the importance of cycling for recreation, health and leisure".

2.5 WALKING AND CYCLING POLICY

Council recognises walking and cycling as healthy, equitable and sustainable forms of transport and recreation that benefit our Shire.

We will consider the needs and desires of walkers and cyclists in all areas of our influence. All new developments, re-developments and initiatives of Council that have some bearing on walking and cycling will seek to improve conditions for these activities.

We will ensure adequate facilities, appropriate design and engaging programs to encourage the community's preferred options to be walking in the 'walking zones', and cycling in the 'cycling zones' of our townships.



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2.6 VISION FOR 2020

By 2020 walking and cycling will have dramatically improved and increased in Mount Alexander Shire.

Council's positive position on walking and cycling will have played a major part in transforming the infrastructure, the attitudes and the behaviour in Mount Alexander towards these activities.

We will have built a more extensive footpath network that will connect townships in the Shire to all the main attractions in their surrounding **'walking zones'**. Footpaths will be generous, well maintained and uncluttered. The very young and the very old will not feel threatened walking down the street.

The environment in the town centres of our **'walking zones'** will be particularly focussed on walking with very slow traffic conditions and easy movement for pedestrians through these spaces. Through community engagement programs and infrastructure it will be clear that walking is the preferred mode of transport for trips close to and around our townships. All these improvements will be reflected in a much greater level of walking.

We will have worked with VicRoads to ensure that wide, well-connected on-road bike lanes are provided on all main roads through towns. We will have joined these main bike lanes with lanes on local streets that connect efficiently with the houses, shops and public places people want to move between.

Cycling will represent a large share of the transport mode split with riding in the **'cycling zones'** being convenient, safe and popular. Recreational cyclists will also find it easy to access the mountain trails and country roads that they enjoy. The Shire will have built on its reputation as a 'cycling centre' to be considered one of the best places in Australia for all forms of cycling.

We will have continued to build, improve and connect up a network of off-road tracks for walkers and cyclists that will give people access from townships to their community and their local environment in a car-free environment. These tracks will also be a major attractor to the area for recreational walkers and cyclists. The Shire's natural and cultural beauty and significance will be easily accessible on these tracks with clear signage, quality maps and good facilities along the way.

We will have worked closely with the community to encourage and increase walking and cycling in the Shire. Schools, community groups and drivers will all be engaged with the message that walking and cycling are healthy, clean and positive activities that are supported at all levels of Council and the community.

Driving in Mount Alexander Shire will also be better with lower traffic volumes, safer speeds and less parking stress in our townships. Through community engagement programs drivers will drive in a more cautious and respectful way, recognising walkers and cyclists as important road users. Any pedestrian might be our neighbour, our daughter or our granddad, any cyclist might be our workmate, our mother or our grandson.

By 2020 there will still be work to do to improve and increase walking and cycling, but Mount Alexander Shire will be a fantastic place to walk and cycle in.



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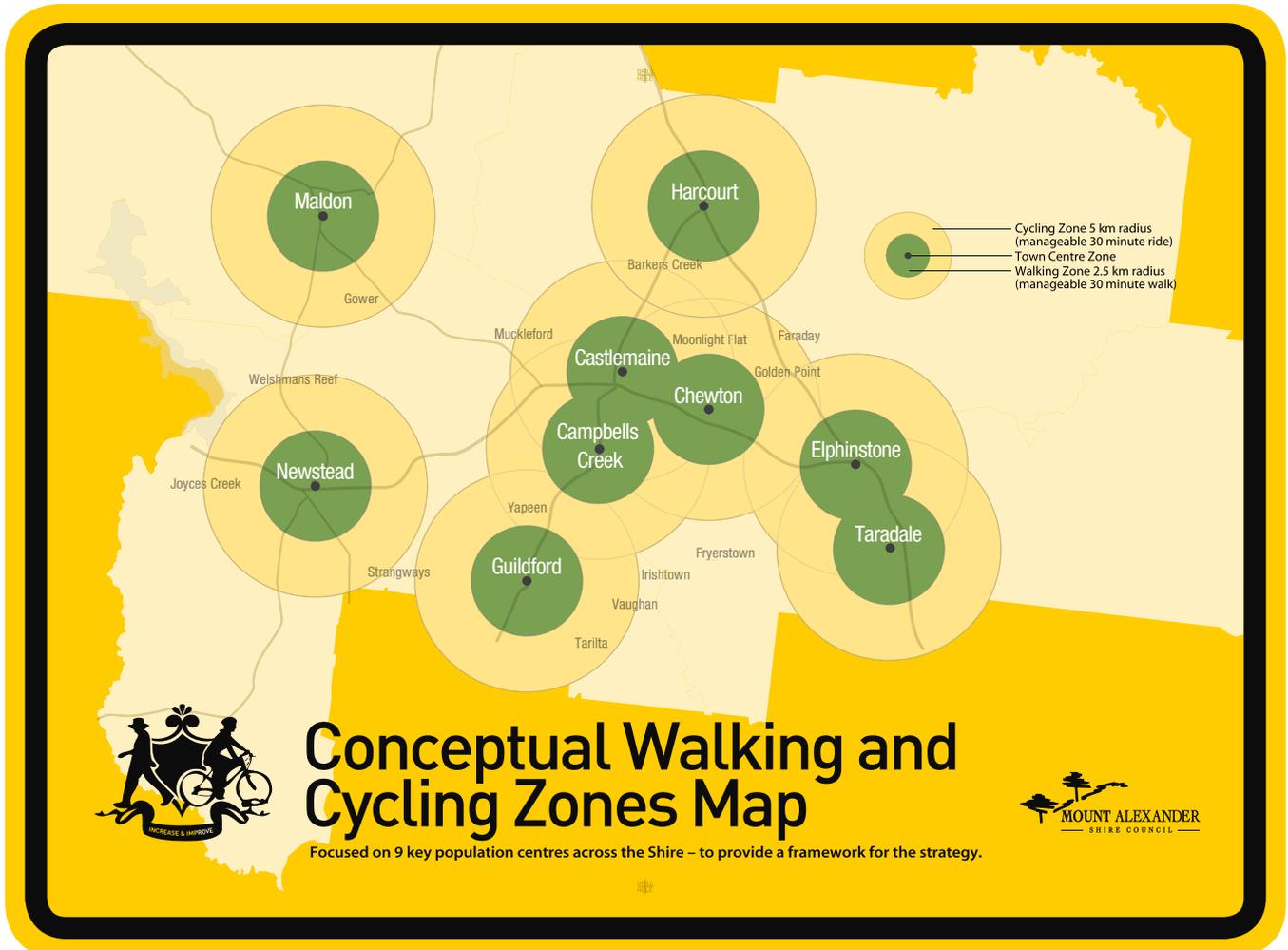


Fig 1. Walking and Cycling Zones Map

2.7 THE WALKING AND CYCLING ZONES EXPLAINED

Conceptual Walking and Cycling Zones have been devised around the key population centres across the Shire to provide a framework for the Strategy.

An average person walks at about 5km per hour, so in 30 minutes covers 2.5 kilometres. If we draw a circle with a 2.5 kilometre radius around a town this gives us an idea of a manageable walking zone for that town.

A casual cyclist rides at about 10–15 kilometres per hour. A 5 kilometre radius gives us a manageable cycling zone for that town.

The terrain, directness of route, time taken at crossings and pace of the individual all affect the actual time taken for any journey. The walking and cycling zones provide an indicative guide for manageable journey times.

The map above shows these walking and cycling zones for the most populous towns in Mount Alexander Shire.



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2.8 THE WALKING AND CYCLING ZONES

There is currently little useful data on walking and cycling in Mount Alexander Shire. One of the most comprehensive profiles of walking and cycling came out of the Community Consultation process associated with this Strategy. A report of the approach and findings of this consultation process is provided as an attachment to this Strategy.

2.9 NETWORKS AND ROUTES

For walking and cycling to become preferred options in our community, the needs and desires of different types of walkers and cyclists need to be understood and catered for. To do this it is helpful to identify three separate walking and cycling networks each of which services particular groups of walkers or cyclists and have their own list of requirements.

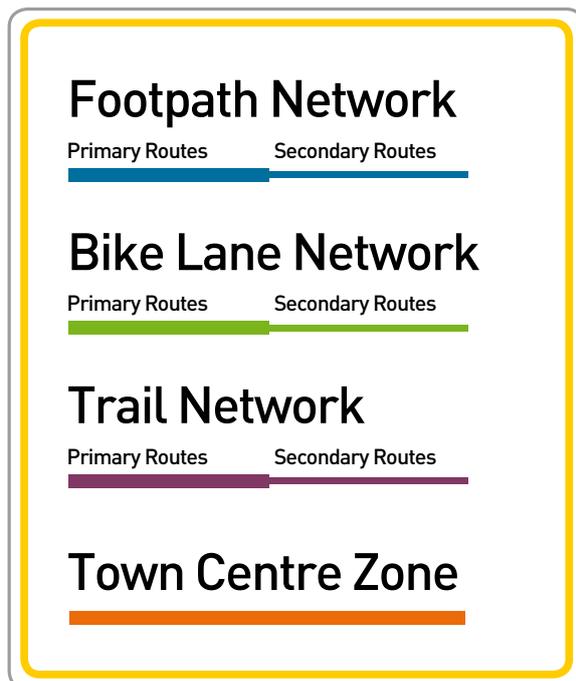
These three networks are:

- **The Footpath Network** (beside road, primarily for walkers)
- **The Bike Lane Network** (on-road bike lanes on existing roads)
- **The Trail Network** (off-road Walking and Cycling trails)

The most important routes on each network are identified as “Primary Routes”. These routes will carry the most walking or cycling traffic and will be built to the highest standards. “Secondary Routes” are those that still play a connection role for walkers or cyclists but do not carry as high a volume of traffic as Primary Routes. The design guidelines for Secondary Routes will therefore not be as stringent as for Primary Routes.

Each of the networks and their Primary and Secondary Routes are addressed in detail in the following sections (see 3, 4 and 5)

This Strategy also identifies the central shopping and activity centres of our townships as areas of special pedestrian importance. These Town Centre Zones need to have the very highest level of pedestrian friendly development to ensure our towns are vibrant, attractive and utilised. Where not already identified in the other networks the infrastructure requirements of these zones are detailed in section 6 Town Centre Zones.



3 The Footpath Network



The footpath network is primarily for walkers, though is also legitimately used by children under 12 who are cycling and adults that may be accompanying them on bike. To be effective and to be used, the footpath network needs to:

- Be **connected** to the places that people want to get to and from
- Be of sufficient **quality** with appropriate facilities
- Provide safety when **crossing** roads and interacting with other traffic
- Be **inviting**, attractive and convivial
- Be **clear** and easy to understand

The most important routes on the footpath network will be identified as “Primary Walking Routes” which will connect to “Secondary Walking Routes”. Footpaths on the Primary Walking Routes will carry the most pedestrian traffic and will need to be of the highest standard.

(see ‘Maps’ for identified Primary and Secondary routes)

3.1 CONNECTION

The footpath network, like the road network, needs to connect the places people are, to the places they want to get to. A well-connected footpath network will provide unbroken walking access to the following:

- Shops and shopping precincts
- Play/open spaces
- Community facilities
- Schools
- Public Transport stops
- Areas of residential concentration
- The Trail Network

If a road suddenly comes to a dead-end a car driver is forced to stop. This is the same with footpaths for many walkers. Walkers such as the elderly, disabled, the very young and those pushing prams depend on footpaths being connected and of sufficient quality to get to their destination.

We will work towards building a connected footpath network that creates an unbroken link between all the locations in the above list within the ‘walking zone’ of each township.

3.1.1 Opening Lanes, Dead-End Streets and Other Blockages

Walkers have the ability to move through spaces that cars cannot. There are many opportunities for pedestrian accessibility in our towns and ‘walking zones’ through the opening or unblocking of laneways, signing dead-end streets that are not dead-ends to walkers and creating new ways through existing blockages to pedestrian movement.

The addition of new ‘pedestrian access’ signs where ‘no through road’ signs do not apply to walkers, and/or replacement of ‘no through road’ signs with signage that notes walking and cycling access will improve pedestrian accessibility of our townships.



3 The Footpath Network

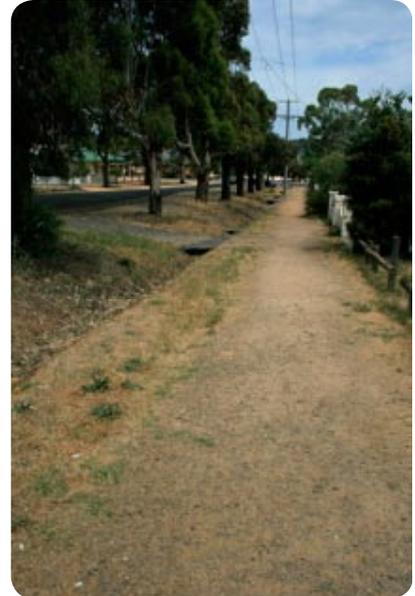


There are many things that block or break up the footpath network. Every street crossing can be an impediment, and crossing major roads at places that don't have signals can be very difficult especially for the young and very old. Rivers and train tracks also create barriers that can break up the footpath network.

We will develop appropriate local planning policies to protect important pedestrian (and cycling) access ways, and ensure compliance at a statutory and enforcement level.

We will use the annual footpath audit process to assess pedestrian accessibility in the Walking Zones, to identify and improve:

- *Blocked pedestrian access ways*
- *Potential new pedestrian access ways*
- *Blockages at intersections or crossing points*
(See 3.3.2 Intersections and 3.3.3 Mid-Block Crossings for more detail of solutions)
- *Signage to increase awareness of pedestrian accessibility*
- *Parallel cycling improvements for all of the above*
(see 4.1.3 Bicycles Excepted)



*Above unsealed footpath,
Below asphalted footpath*

3.2 QUALITY

Many pedestrians, particularly the elderly, disabled or those pushing prams require a high level of quality in the footpath network for it to be useable and safe; other pedestrians prefer informal footpaths as a part of the 'country feel' of the Shire.

3.2.1 Gravel or Sealed?

Gravel footpaths are less than ideal for many vulnerable road users yet provide a cost effective way to deliver a greater length of path and therefore better connection in the footpath network compared to the sealed options of concrete and asphalt. Work on gravel footpaths can become the foundation for future sealed surfaces, making investment in gravel paths sound even if the intention is to move towards sealed surfaces in the future.

The balance between quality and connectivity will be addressed by making footpaths on the Primary Walking Routes sealed, and preferencing sealed surfaces for Secondary Walking Routes, while leaving the option open for the use of gravel as an interim stage to sealing, to achieve greater footpath distance and connectivity in the short term.



3 The Footpath Network



3.2.2 Footpath Guidelines

We will use the following design guidelines for establishing, upgrading and maintaining footpaths:

- *Footpath surfaces need to be sufficiently smooth and free from tripping risks so that a person using a walking frame can move comfortably. (See 11.3.1.1 Staff using mobility aids and bicycles)*
- *Footpaths on the Primary Walking Routes need to be at least 1.5 metres wide, enough to allow groups of pedestrians, children on bikes or people pushing prams to pass comfortably.*
- *Footpaths on the Primary Walking Routes will be made of asphalt or concrete depending on appropriateness for the streetscape or matching of existing infrastructure.*
- *Footpaths on the Secondary Walking Routes need to be no narrower than 1.2 metres*
- *Footpaths on the Secondary Walking Routes will ideally be made of asphalt or concrete (depending on appropriateness for the streetscape or matching of existing infrastructure) though gravel may be used as an interim stage to sealing to provide greater footpath network length*
- *Every intersection or crossing point will have a Pram-ramp of a grade no greater than 1.8 (12.5%) and no narrower than 1.2 metres on the Primary Walking Routes and no narrower than 1 metre on the Secondary Walking Routes to ensure universal access at these points (see 3.3 Crossings for further design guidelines)*

3.2.3 Streets Outside the Primary and Secondary Walking Routes

Everyone in the Shire should be able to walk safely and comfortably from their houses along any road to wherever they want to get to in the Shire. Yet many of the residential streets in our Shire have no formal footpath or sometimes lack the space needed to walk separately from vehicles.

This Strategy focuses attention on Primary and Secondary Walking Routes as footpaths of greatest importance for improvement, but all residential streets that connect directly or indirectly to these identified 'routes' are still important parts of the walking infrastructure of the Shire.

Access along informal 'footpaths' on road verges can and should be protected from parked vehicles, overhanging vegetation, tripping risks left by adjacent homeowners and speeding vehicles. Any specific safety risk along these streets needs to be addressed appropriately.

3.2.4 Grade as a deterrent to use

Very steep footpaths (extreme grade) are also an issue for many walkers and a deterrent to many potential users. Grade at Pram-ramps is addressed under 'crossings'

We will avoid grades that exceed 1:14 (4°) on footpaths on footpaths on the Primary and Secondary Walking Routes unless no reasonable alternative exists.

3.2.5 Maintaining Unimpeded Footpaths

Obstructions on the footpath can be in the form of bins out for collection, overhanging branches, street-side café seats and tables, shop displays, parked cars, delivery vehicles, building or maintenance works or anything that stops the free flow of walkers on the footpath.

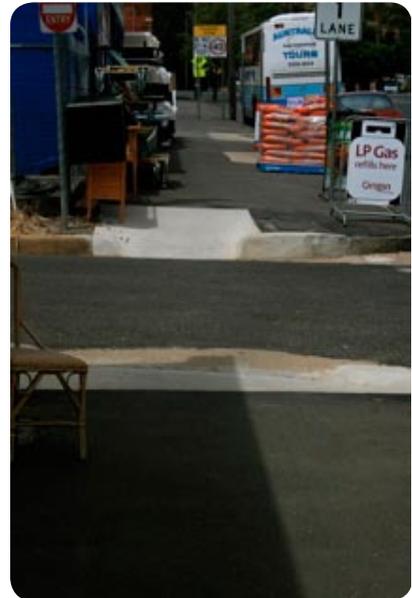


3 The Footpath Network



Through local laws, maintenance and media we will:

- Promote proper placement of bins out for collection so that they don't block the footpath
- Continue and improve the work of ensuring obstructing branches and vegetation from Council plantings or private gardens are kept from impeding pedestrian movement
- Ensure that the flow of footpaths is not obstructed by footpath trading, while still encouraging vibrant street trading that builds attractive town centres through the development of footpath trading guidelines
- Continue and improve the work of ensuring construction works that cross over or spill onto the footpath have a minimal impact on pedestrian access by requiring stronger conditions and better enforcement for building permits that have the potential to block or create impediments on the footpath
- Enforce the above footpath guidelines
- Continue and improve the work of enforcing parking controls so that cars and delivery vehicles parked across the footpath are appropriately deterred.
- Develop media campaigns to promote the importance of the road rules in relation to pedestrian access (see 11.2 Driver Behaviour)



Blockers on the footpath network



3.2.6 Driveways

Driveways and other footpath crossovers create risks and surface impediments on the footpath network. Cars reversing out of driveways across the footpath must give way to walkers (and riders) on the footpath, but often this road rule is not followed due to issues of poor visibility, lack of care looking out for footpath users or ignorance of the road rules. This is a particular problem for children whose height can be obstructed by fences, hedges or other objects between the footpath and the view from the driveway.

Drivers using off-road parking need to be encouraged to reverse into the driveway as this affords good views of the footpath when entering and much better views when exiting. Fences, hedges and other obstructions that block good sight-lines of the footpath will ideally be removed; this is of particular importance on the Primary Walking Routes. On-street parking offers a safer alternative to crossing the footpath.

We will strengthen existing controls and develop appropriate new local planning policies to ensure better sight lines for vehicles crossing the footpath with particular consideration when granting planning and building permits on Primary Walking Routes, and ensure compliance at a statutory and enforcement level.

We will develop media campaigns to promote safe driving behaviour around driveways and footpath crossings.



3 The Footpath Network



3.2.7 Road Related Areas

Particular attention needs to be paid to businesses that encourage or require vehicles to cross footpaths into their 'road related areas' be they service stations, car-parks or drive-through facilities. In all cases vehicles entering or exiting these areas are required to give-way to pedestrians in both directions.

We will develop appropriate local planning policies to ensure that:

- *Pedestrian right of way is better communicated to vehicles entering and exiting road related areas in terms of signage, road/footpath treatments and the reduction of visual impediments for clear sight-lines*
- *Vehicles entering and exiting a road related area are slowed by appropriate traffic calming measures (e.g. speed humps), narrower turning circles, and shorter footpath crossing widths,*
- *Ensure compliance of the above at a statutory and enforcement level*

3.2.8 Unsealed Roads and Road Related Areas

Changes also need to be made to unpaved roads and 'road related areas' that cause gravel and other debris to be dragged across the footpath and onto road shoulders and bike-lanes creating tripping risks and problems for walkers and cyclists.

We will develop appropriate local planning policies requiring businesses along Primary Walking Routes and Primary Cycling Routes to reduce gravel from road related areas being pulled across footpaths, road shoulders, bike-lanes and roads by one of the following:

- *Paving their road related areas*
 - *Taking responsibility for cleaning debris*
 - *Contributing to the financial costs associated with cleaning*
- And ensure compliance at a statutory and enforcement level.*

At intersections along Primary Walking Routes where gravel across footpaths is identified as a concern we will work towards sealing unsurfaced streets back to the property line, or where appropriate to minimise this risk.

We will use the annual footpath audit process to assess the safety and pedestrian amenity of all existing commercial crossovers on the Primary and Secondary Walking Routes to address the above two issues and work with the landholders of identified 'problem' sites to improve the crossover for pedestrian safety and comfort.

3.2.9 Public Toilets, Seats, Drinking Fountains

Quality facilities are also essential for making the walking environment pleasant, accessible and safe. The provision of public toilets, seats in shaded spots for resting during a journey, drinking fountains for maintaining hydration while walking (particularly in the hotter weather) are all important parts of the footpath infrastructure.

These facilities will ideally be situated at the intersections of two or three of the walking and cycling networks to allow sharing of the facilities across the different user groups.



3 The Footpath Network



Where possible these facilities should be shared with other community facilities like sports grounds or public/private facilities like retail outlets or shopping centres to reduce duplication and cleaning/maintenance costs. Clear signage and markings will also be important.

We will work towards providing a Footpath Network that has access to public toilets, seats in shaded summer locations and drinking fountains at acceptable intervals

We will work with interested community partners (Older people, parents with young children, people with disabilities) to identify gaps and areas for improvement in the existing provision of the above facilities as well as options for utilising existing public or private facilities for this purpose. (see also Trail network 5.2.2)

3.3 CROSSINGS

The greatest safety concern for walkers is where interactions with vehicles take place at crossing points. Crossings can be grouped into two main categories, 'Intersections' and 'Mid-Block Crossings'. Some approaches for improving the safety of crossings work in all locations while others suit specific types of crossings.

3.3.1 Speed

Slowing vehicle speed is the most effective way to improve the safety of pedestrian crossing points. Vehicular interactions with pedestrians are best done at walking pace, as vehicle speeds over 30 km/h are extremely dangerous to walkers⁷. The design of the road environment at crossing points as well as along roads of high pedestrian and vehicle interaction need to send a clear message to "slow down". This "slow down" message is incorporated in the approaches addressed below under Intersections and Mid-Block Crossings. More general approaches to calming traffic speed are addressed in Slow Traffic Conditions.

3.3.2 Intersections

3.3.2.1 Wide Bell Mouths

Wide "bell mouths" at intersections do not adequately reflect a pedestrian's right of way at these points, with turning vehicles given plenty of room for making turns at speed while pedestrians are forced to make a longer crossing. It is not unusual to have streets that average 6 metres in width along their length opening out to 20-30 metres at an intersection.

The bell mouths of intersections, where the footpath network and roads intersect, need to be narrowed where possible to slow turning vehicles and allow a shorter crossing for pedestrians, ideally no wider than the average width of the street at the footpath.

Footpath crossings that can't be reduced down to 6 metres require a pedestrian refuge/splitter island. However, this is less advantageous for pedestrians if the intersection's wide mouth encourages vehicles to turn a corner at anything faster than walking pace.



Above Wide bell mouth, 25 metre footpath crossing. Below narrowed treatment, 6.5 metre footpath crossing



3 The Footpath Network



Pedestrian refuges need to be wide enough to accommodate a person pushing a pram and assisting a toddler, or a person wheeling a bicycle. 1.8 metres is the minimum⁸ width that a refuge should be for pedestrian safety as shorter refuges can leave pedestrians sticking-out and exposed. Lane crossings on either side of a pedestrian refuge should be no greater than 3 metres.

We will work towards a maximum 6 metre crossing at the bell mouths of intersections on the Primary and Secondary Walking Routes and in our Town Centre Zones. Where total crossings cannot be reduced to 6 metres a pedestrian refuge 'splitter island' will be used to facilitate safer pedestrian movements where that pedestrian refuge can be at least 1.8 metres wide and individual lane crossings are no greater than 3 metres.

3.3.2.2 Footpath Direction

At many intersections the footpath veers away from its path leading walkers away from the intersection. Apart from making the footpath longer and less direct, these variances send a confusing message to traffic. Although vehicles turning off a primary route into a side street should give way to walkers crossing the side street, the footpath leads walkers away from the intersection making car drivers less likely to see them or to give-way



We will work towards footpaths that do not change direction at intersections on the Primary Walking Routes and in our Town Centre Zones, but reflect pedestrian right of way at these points.

3.3.2.3 Raised Pavement Crossings

Raised pavement crossings are like a speed-hump with a footpath across the top. They send a clear message that the footpath continues across the intersection and vehicles need to slow at this point. This message can also be re-enforced with coloured or textured surface treatments that contrast with the road surface and colour.



Raised pavement crossing

We will utilise 'raised pavement crossings' on the Primary Walking Routes and in our Town Centre Zones as the preferred approach to slow traffic and make the footpath network safer and easier to use. Where drainage issues make the cost of this treatment prohibitively high, contrasting markings or surface treatments will be used to support the footpath network

3.3.2.4 Zebra Crossings at Intersections

Zebra crossings at intersections can be effective ways of assisting walkers to make safe crossings, while slowing traffic – assisting safety further. Zebra crossings at intersections can be marked over raised pavements, and alternative road surface textures or colours.

Note: The use of Zebra crossings is under the jurisdiction of VicRoads.



3 The Footpath Network



We will work with VicRoads to utilise zebra crossings at important intersections on the Primary Walking Routes and in our Town Centre Zones where turning vehicles reduce the safety or amenity to pedestrians. These Zebra crossings can be in addition to raised pavement crossings and/or contrasting markings or surface treatments



Zebra intersection

3.3.2.5 Signalised Crossings at Intersections

Improvements in the sequencing at signalised crossings (traffic lights) can make conditions better for walkers. Early 'green man' sequencing allows pedestrians to enter an intersection before turning traffic is given access, which is in line with the road rules. Automatic call up allows walkers who arrive at an intersection just after the lights have changed to catch that sequence, and not leave them standing by the side of a busy road for several minutes. It is equivalent to what vehicular traffic enjoys. Longer crossing times will also be programmed to allow more vulnerable road users to have adequate time to cross the road. All of these changes are a simple matter of re-programming, and are being adopted in signalised crossings across the state.



Early Green - Pedestrians go first

When re-sequencing is conducted, consideration needs to be given to the speed at which vehicles travelling between two signalised intersections are encouraged to travel. Where sequencing at two intersections can be linked, sequencing should not allow speeding traffic to 'miss' both lights while traffic travelling at a safe and legal speed 'catch' both lights, which only encourages a culture of speeding in our town centres.

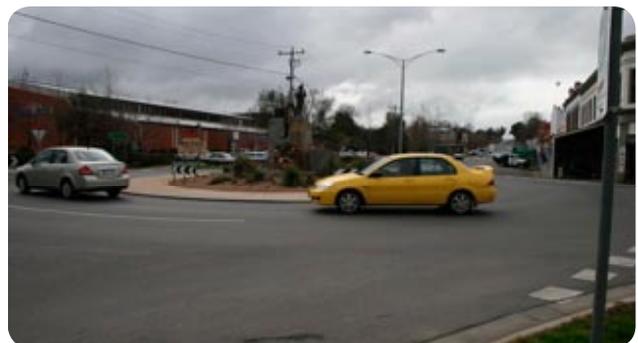
Note: The control of signalised crossings is under the jurisdiction of VicRoads

We will work with VicRoads towards the following improvements for pedestrians at signalised crossings:

- *Early 'green man'*
- *Automatic call up*
- *Longer crossing times*
- *Where sequencing at two intersections can be linked, sequencing should favour at or below speed limit driver behaviour*

3.3.2.6 Roundabouts

Unlike other intersections, pedestrians have no priority at roundabouts in any direction. Pedestrians have to give way to vehicular traffic on all legs of a roundabout. This makes roundabouts very difficult for vulnerable road users (particularly younger and older walkers) to negotiate, and can leave some walkers stranded by the side of the road for a very long time. This situation is extremely dangerous.



3 The Footpath Network



Vulnerable road users are often advised in official publications to “avoid crossing at Roundabouts” as “you must give way to motor vehicles” in all directions⁹. It is unacceptable to build new traffic treatments that exclude, or are dangerous for the people who need the footpath network the most.

As an example, the large roundabout on Forest and Wheeler/Hargraves Streets in Castlemaine impedes important pedestrian movement from the South and the East into the town centre. Modifications are required to allow better pedestrian access on these important walking routes.

We will, where possible avoid building new roundabouts in the Walking and Cycling Zones and where a particular need is identified we will work towards the modification of existing roundabouts to address any walking and cycling concerns.

3.3.3 Mid-Block Crossings

Walkers often favour mid-block crossings (a crossing not made at an intersection), as there is only traffic on one street to negotiate, whereas crossings made at intersections involves negotiating with traffic in several directions. Mid-block crossings can also be important for walkers to get to where they want to go by the shortest route, especially in shopping areas. Making mid-block crossings easy and safe is an important part of improving the ‘pedestrian accessibility’ of an area or route.

Different streets and their particular characteristics determine the pedestrian accessibility of that street. The less traffic there is, the slower its speed and the shorter the crossing, the easier it is for walkers to negotiate. Often the Town Centre Zones in our Shire have grown up along what are now major arterial routes carrying relatively high volumes of traffic at speeds not suited to town centres, and in some cases on dual carriageways (2 lanes each way). These are poor conditions for pedestrian accessibility.

Pedestrian accessibility can be assisted by the installation of Formal Pedestrian Crossings, but a range of other measures can assist in creating ‘informal crossings’ that can be used to make stretches of street more accessible for pedestrian movement.

3.3.3.1 Formal Pedestrian Crossings

Formal pedestrian crossings (zebra or signalised) can be effective ways of assisting walkers to make safe mid-block crossings, but have some draw-backs for accessibility. A mid-block crossing made 20 metres either side of a formal pedestrian crossing is technically jay-walking, is therefore illegal and can result in a fine. One ‘formal’ crossing can make 40 metres of street less accessible to walkers, while making crossing at one point better. There is a balance to be struck between formal and informal crossings.

Mid-Block Zebra crossings are best suited to streets that are already reasonably slow and where motorists are expecting pedestrian activity. In these cases the ‘pedestrian accessibility’ of the street will already be high, so zebra crossings should be restricted to crossing points that best suit vulnerable road users and connect to important locations or routes.

Signalised pedestrian crossings are better suited to low ‘pedestrian accessibility’ roads where speeds and traffic volumes are relatively high. When signalised crossings are used on arterial routes they should be placed where they provide the greatest benefit to all three networks.



3 The Footpath Network



3.3.3.2 Informal Mid Block Crossings

Mid-block crossings can be enhanced with the use of pedestrian refuges (or median strip, or pedestrian storage), creating a space between lanes of traffic for walkers to make a crossing in two stages. Pedestrian refuges can be created with painted boxes, but are clearer and safer with raised sections of pavement, though not so raised that they are difficult for vulnerable road users to mount. As noted under intersections (3.3.2 Intersections) refuges should ideally be a minimum of 1.8 metres wide (to accommodate prams, scooters etc.), and lane crossings should be no greater than 4 metres.

Narrower streets are easier and safer for pedestrians to cross. Car lane width can be reduced by using or changing the orientation of on-street parking, the introduction of bike lanes, painted or solid pedestrian refuges and narrowed lane markings.

Footpath extensions or chicanes can also be used to slow traffic by reducing lane width at points while shortening pedestrian crossing distance. Well placed mid-block chicanes can improve pedestrian visibility and site lines, making mid-block crossings safer.

Trees, parked cars and other roadside objects like footpath trading displays or café furniture can hide walkers, especially children, from oncoming traffic and reduce pedestrian sight-lines. Creating spaces amongst these barriers can improve sight-lines and safety for road crossings. When combined with the above 'shorter crossing points' these spaces can provide simple, safer crossing points along stretches of road that currently have poor pedestrian accessibility.

(Approaches to calming traffic speed along roads are addressed in 3.4.3 Slow Traffic Conditions)

Note: The approval of major traffic control items such as signalised and zebra crossings along with Arterial roads remain under the jurisdiction of VicRoads.

We will work (with VicRoads - where appropriate) towards maximising pedestrian safety and accessibility at identified locations through the use of street narrowing treatments, shorter crossing points, pedestrian refuges, improved sight lines or the installation of formal crossings as deemed appropriate for the specific location and risks identified.



3 The Footpath Network



3.4 INVITING

Even the very best infrastructure can be under-utilised if it does not attract people to it. Human beings have a very strong desire to be in places that are comfortable, pleasing and beautiful. It is essential that we consider how a place makes people feel if we expect to attract them to it.

3.4.1 Shade and Beauty

Streets and footpaths are pleasant to walk on when they are shady in the summer, sunny in the winter and are protected from winds. Appropriate placement of shade trees, verandas and shelter structures can make the difference between a pleasant walk and a hot, windy or chilly one. Shade trees that do not block sight-lines or obstruct footpaths contribute greatly to the pleasure of walking.

Lower plantings can provide colour, beauty and attract birds in and along our streets. Good planting and planning can be the difference between a footpath that 'gets you there' to a place that is a pleasure to walk in. Council's street tree planting program and ongoing maintenance of existing street trees will ensure a wealth of beautiful streets for the walking network.



Summer shade from deciduous trees

We will develop appropriate local planning policies to ensure that shading and seasonal comfort issues for pedestrian spaces are a core consideration when developing streetscape/landscape policies and undertaking landscaping works.

We will develop appropriate local planning policies to encourage effective verandas over the footpath in the design and construction of new retail and commercial development within the Town Centre Zones and along Primary and Secondary Walking Routes, both in areas where heritage concerns apply and where more modern styles are developed, and the redevelopment of verandas on older buildings, whether C19 or C20, will also be encouraged. We will ensure compliance with this policy at a statutory and enforcement level.

3.4.2 Good Orientation for Pedestrian Environments

Footpaths and shops on the South side of an East-West oriented street offer the best locations for walking and sitting as they can be sunny in Winter and shady in Summer with the right trees or structures. The South side of the street should be favoured for the Primary Walking Routes unless this clashes with better connections.

The main street through Newstead and Chewton, as well as Forest, Mostyn, Lyttleton and Templeton Streets in Castlemaine's Town Centre Zone are all oriented approximately East-West and their South side will present the best options for year-round comfort with appropriate plantings and structures.

Most other main streets in the Shire run North-South (approximately) offering fewer opportunities for the improvements detailed above. Deciduous shade trees and North oriented structures can still make for pleasant environments on these streets. Developments close to the intersection of East-West feeder streets on these main North-South streets can also provide good opportunities for improvement.



3 The Footpath Network



3.4.3 Slow Traffic Conditions

Slower traffic conditions make the road safer for everyone. This is confirmed by many studies on the effect of speed in crashes. A recent study has concluded that in relation to fatalities, “a strong dependence on impact speed is found, with the fatality risk at 50 km/h being more than twice as high as the risk at 40 km/h and more than five times higher than the risk at 30 km/h”¹⁰.

Another essential factor to consider in relation to traffic speed is the effect it has on the perceptions of safety and comfort of pedestrians using that street. Pedestrians are less inclined to use a footpath and feel less safe walking, if traffic on the road is busy and fast. Parents are less likely to allow their children to walk independently if there is a perception of fast and threatening traffic conditions. This is supported by the research of Donald Appleyard who showed an inverse link between the traffic volumes of streets and the use of the street by pedestrians¹¹.

Council recognises that the perception of speeding vehicles in the community and the resultant safety concern is just as much of a deterrent to walking (and cycling) as actual speed is.

Recent work at Monash Accident Research Centre has shown that lowering traffic speeds through key pedestrian areas actually has very little impact on travel times for drivers while having a substantial improvement in the reduction of serious injury and fatality¹².

Traffic can be slowed by a few methods:

- Lowering Speed limits
- Traffic Calming Measures Along Roads
- Traffic Calming Measures at Crossings (this is addressed in ‘Intersections’ and ‘Mid-Block Crossings’ under ‘Crossings’ above)
- Driver Behaviour Change

3.4.4 Reviewing the 85th Percentile

The ‘85th percentile’ is used by traffic engineers to assess traffic speed data from ‘tube-counts’. It suggests that if 85% of vehicles are at, or below the speed limit in a particular street statistically there is not reason for concern with speed in that street.

This methodology has several problems, they are:

- 15% of drivers are still speeding in the street
- Tube counts do not differentiate between vehicles that are at cruising speed when they cross the counter and vehicles that are not yet at full speed. Vehicles that have pulled out from the curb or driveway or turned into the street, or who have slowed because they are behind a slower vehicle are all not yet at full speed. Although efforts are made to place tube counters away from intersections, car parks etc. in some streets vehicles are potentially not at full speed. This may account for ambiguity in the traffic count data. These factors may influence data on local residential roads more than arterial roads.
- Tube counter strips are very noticeable and are a clear reminder of speed and are still remembered by some as an early speed detection device used by police. Drivers who are inadvertently speeding might well adjust their speed down when they see a tube-counter, this would also skew the speed data down.

In light of these issues and in recognition of the profound effect speed has on safety and the perception of safety, we will place particular emphasis on speed in areas of high walking and cycling importance, even if they don’t meet the 85th percentile.



3 The Footpath Network



3.4.5 Lowering Speed limits

The introduction of the standard 50kph speed-zone in local streets was very successful in Victoria. Research has shown a noticeable reduction in fatalities and serious injuries since the introduction of this control¹³. There has also been great success with the introduction on 40km zones in the main shopping streets of Melbourne. Speed limits alone will not slow all traffic. Public awareness raising, general community support and enforcement are all needed to make speed limits effective, but lower speed limits send a clear message about expected behaviour in and around our areas of highest pedestrian activity.

Many drivers expect that they will be able to drive 'at the speed limit' rather than 'at a safe and legal speed', which is what is actually required by the law. Lowering speed limits helps these drivers who find it hard to respond to the conditions of the road and surrounds.

Note: Setting speed limits is under the jurisdiction of VicRoads, following an initial assessment by Council.

We will continue to work with VicRoads towards lowering the speeds in our Walking Zones, on our Primary Walking Routes and in our Town Centre Zones.

3.4.6 Traffic Calming Measures Along Roads

Road narrowing, speed humps, chicanes, one-way bottle-necks, different road textures, raised pavements and curb extensions are all measures can be used to slow traffic speeds along the length of roads. The best options to use will be ones that offer dual functions. For example chicanes can be used as crossing points to allow pedestrians shorter crossing points, speed humps can become raised zebra crossings, different road textures or colours can be used to reiterate pedestrian priority in the road rules. These treatments will integrate with the treatments detailed in 'Intersections' and 'Mid-Block Crossings' under 'Crossings'.

We will use appropriate traffic calming measures to slow traffic and to assist pedestrians where speeds are deemed too high for safety or the perception of safety.

We will use dual functions on all traffic calming measures to ensure the best outcomes for each treatment.

3.4.7 Driver Behaviour/Culture Change

Even without speed limit reduction or traffic calming infrastructure drivers can make the roads much safer by choosing to slow down and drive with care and courtesy. This kind of behaviour needs to be encouraged at many levels to become a part of a different culture on the road.

Council has an established partnership with various road safety organisations.

We will work with road safety partners to deliver ongoing media campaigns and programs to raise public awareness in the area of road safety.

(This area is addressed in more detail in section 5.6 'Driver Behaviour')



3 The Footpath Network



3.4.8 Walking with Bicycles and Mobility Aids

Children under 12 and parents accompanying children under 12 are allowed to use the footpaths to ride on. Cyclists who are allowed to use the footpaths are required to give way to walkers. Keeping bicycle speeds low and making sure riders respect and give-way to walkers is important for keeping footpaths comfortable for all walkers.

We will develop and install simple signage at key network connector points (where Trails and shared footways connect to the Footpath network) to clearly state which cyclists can use the footpath and what is expected of them.

The use of motorised mobility aids (electric scooters) can be vital for keeping those who have mobility problems involved in and connected to their community. As our population ages the use of electric scooters is increasing, and is at times creating conflict on the footpath. There are already guidelines for the safe use of electric scooters and the introduction of legislative controls on registration, speed and behaviour of these vehicles may well be introduced as it has been in other States. Any new State controls on the use of electric scooters should ensure:

- A medically verified reason for use
- Speed limitations to 'walking pace'
- Clearer road rules for 'right of way' conflicts between pedestrians and electric scooters

It is hoped the improvements in footpath quality and connectivity, bike lanes and off-road trails detailed in this Strategy will assist in keeping our community more active and make walking and cycling options for those with limited mobility much better, thus reducing the need for and prevalence of electric scooters on our footpaths, while providing excellent footpaths for those who need mobility assistance.

3.5 CLEAR

The combination of signage, maps and markings for aiding pedestrian understanding of the walking environment are important for people to know where they are and where they are going. Signage, maps and markings are often referred to together as 'Wayfinding'. Wayfinding is particularly important to visitors and those just learning to use the walking and cycling networks.

Wayfinding for all three walking and cycling networks is addressed in section 7 of this report.

5 "Pedestrian fatality risk as a function of car impact speed" 2008. E Rosin, U Sanders. Autoliv Research, Sweden

6 Australian Standard AS1742 Part 10 and Austroads Part 13 Guide to Traffic Engineering Practice

7 "Pedestrian fatality risk as a function of car impact speed" 2008. E Rosin, U Sanders. Autoliv Research, Sweden

8 "Liveable Streets" 1981. D. Appleyard

9 "The impact of lowering speed limits in urban/metropolitan areas" 2008. Archer, Fotheringham, Symmons, Corban. MUARC

10 "An evaluation of the 50km/h speed limit in Victoria" 2006. Hoareau, Newstead, Cameron. MUARC



4 The Bike Lane Network



The Bike Lane Network is made up of on-road bike lanes that connect through the centre of our townships to quieter streets and country roads. This network is focused on directness, giving cyclists a fast, efficient and safe way to move around. Cyclists who are confident enough to ride in traffic will use the Bike Lane Network, but the network must also cater for all cyclists over 12 who can no longer use the footpath network, and novice adult cyclists who are still gaining confidence. To provide for a broad range of skill levels requires wide lanes with a good level of separation and good provision through intersections.

To be effective and to be used the Bike Lane Network needs to:

- Be **connected** to the places that people want to get to and from
- Be of sufficient **quality** and provided with appropriate facilities
- Provide safety when **crossing** at intersections
- Be **inviting**, attractive and safe
- Be **clear** and easy to understand

The most important routes on the bike lane network will be identified as “Primary Cycling Routes” which will have clear on-road bicycle lanes, signage and crossing markings. These lanes will connect to “Secondary Cycling Routes” which will include streets with lower and slower traffic.

4.1 CONNECTION

4.1.1 On-Road Bike Lanes

The Bike Lane Network will be concentrated on main routes inside our Cycling Zones. The network needs to get cyclists of many abilities safely from where they live to:

- Shops and shopping precincts
- Play/open spaces
- Community facilities
- Schools
- Public Transport stops
- Areas of residential concentration
- The Trail Network

The Bike Lane Network will get cyclists into town in the most direct fashion, as well as allowing cyclists to move around the centres of our townships. Bike Lanes will also provide access to areas of residential concentration. The main roads through our towns will be essential parts of the Bike Lane Network as they are usually the most direct routes between the places people want to get to.

We will work towards building a connected bike-lane network that creates an unbroken link between the above list of locations within the ‘cycling zone’.

Note: Main roads and the ‘Municipal Bicycle Network’ are under the jurisdiction of VicRoads.

We will continue to work with VicRoads towards making the Primary and Secondary Cycling Routes on the main roads through the Shire’s townships part of the Bike Lane Network.



4 The Bike Lane Network



4.1.2 Known Cycling Routes

The Bike Lane Network also needs to connect out to main arterials and lower volume country roads that are regularly used by commuter and recreational cyclists. These routes will be identified as 'Known Cycling Routes' and will have their own level of service.

We will develop signage identifying these 'Known Cycling Routes' that reinforces:

- *The fact that cyclists use this route and are legitimate road users*
- *The legal right of cyclists to ride two abreast for safety and visibility*
- *A recommended passing distance of 1.5 metres (non-enforceable)*

This signage will not be there to 'recommend' the route to cyclists; it will be there to acknowledge that cyclists 'do use this route', and to alert other road users to this fact. This distinction is important in the development of the signage.

We will develop a media campaign to promote the new 'Known Cycling Routes' signage and the concepts it conveys.

Note: Arterial roads and the control of Speed Zones are under the jurisdiction of VicRoads.

We will work (with VicRoads – where appropriate) towards identified 'Known Cycling Routes' having the following features:

- *A safe shoulder to ride on*
- *Slower traffic conditions*
- *Clear signage (with the features detailed above) installed at the start of each route, after each major intersection and at points of safety concern*
- *A regular cleaning schedule to ensure shoulders and road edges are free from gravel, broken glass and debris.*

We will work with local cyclists and/or cycling groups to conduct an audit of the 'Known Cycling Routes' to identify the features noted above

4.1.3 Bicycles Excepted

There are many dead end, one-way and no-turn streets that can be safely opened up to cyclists in the same way that pedestrian accessibility is identified for improvement in 'Opening lanes, dead-end streets and other blockages' under 'Connection' in the 'Footpath Network'. Existing "Bicycles Excepted" signs can be used to improve access, or a new "Walkers and Bicycles Excepted" signage could be developed.

We will work with local cyclists and/or cycling groups to conduct an audit of cycling permeability in the Walking and Cycling Zones, to identify and improve:

- *Blocked cycling access ways*
- *Potential new cycling access ways*
- *Signage improvements to increase awareness of cycling permeability*



4 The Bike Lane Network



4.2 QUALITY

Bike lanes will be constructed in accordance with relevant standards and need to be wide, well marked, well signposted and kept clear of debris.

4.2.1 Lane Width and Markings

It is essential that bike lanes are of sufficient width to allow cyclists to be outside the 'door zone' of parallel parked cars while still being a safe distance from passing traffic. Given that car doors open out to 1 metre a bike lane needs to be at least 1.8 metres if running next to where cars park in parallel and on Primary Cycling Routes.

Bike Lanes need to be clearly marked and with a good sense of separation from the adjoining vehicular traffic. This will be done with the use of:

- Regular painted 'Bike Lane' symbols before and after each intersection and repeater symbols at intervals of no less than 100 metres
- Clear 'Bike Lane' signs facing the oncoming traffic after each intersection with regular reminder signs at intervals of no less than 200 metres
- 'Vibra-lines' on the Primary Cycling Routes. Vibra-lines like those used on the edge of freeways give an auditory denotation when vehicles cross into bike lanes, and provide a greater sense of separation for cyclists without creating barriers
- Solid colour across unsafe intersections (see 'Solid Colour' under 'Crossings' in this section for details)



Vibra-line creates separation between bike and car lanes

Note: Main roads are under the jurisdiction of VicRoads.

We will work (with VicRoads – where appropriate) to ensure bike lanes are:

- *A minimum of 1.8 metres wide on the Primary Cycling Routes, or where bike lanes run next to parallel parked cars*
- *A minimum of 1.2 metres on the Secondary Cycling Routes*
- *Marked with clear bicycle symbol stencils before and after every intersection and at intervals of no less than 100 metres.*
- *Signposted with regular Bike Lane signs facing the oncoming traffic after every intersection and at intervals of no more than 200 metres*
- *Vibra-line bike lane marking between bikes and car lane on the Primary Cycling Routes for safety and separation*

4.2.2 Cleanliness

The side of a road is often where debris is pushed from passing vehicles. Debris from the road, particularly after crashes is very dangerous for bike tyres and riders who are more exposed to flying objects. (See related issues and actions in 'Road Related Area' and 'Unmade Roads' under 'Quality' in the 'Footpath Network' section)

We will develop a regular maintenance program for on-road bicycle lanes to ensure that regular cleaning of bike lanes is undertaken. Where the maintenance is a VicRoads responsibility:

- *Request they prepare a similar maintenance program*
- *Keep VicRoads informed of local cleaning needs (see also 4.1.2 Known Cycling Routes)*



4 The Bike Lane Network



4.2.3 Separation

The best cycling infrastructure separates cyclists from moving traffic with physical barriers and/or parked cars. These “Copenhagen” style lanes are being used in cycle friendly cities around the world and test lanes have been installed in the top end of Swanston Street in Melbourne. The lanes work well for cyclists who do not like riding close to other traffic, though can corral cyclists who prefer a more permeable cycling experience.



Copenhagen-style lane trial, Swanston Street Melbourne

Without a good network of connected bike lanes Copenhagen style lanes in the Shire would be of little value. Their introduction will be revisited when the Bike Lane Network is well developed in reviews of this Strategy or its replacement.

Shared footways are an existing form of infrastructure that allows walkers and cyclists to share a common path separated from vehicular traffic. Shared Footways are addressed in the ‘Trails Network’ section of this Strategy.

4.2.4 Grade as a deterrent to use

Very steep Bike Lanes (extreme grade) are also an issue for many cyclists and a deterrent to many potential users, particularly new cyclists.

We will avoid grades that exceed 1:14 (4°) in any block on bike lanes on the Primary and Secondary Cycling Routes unless no reasonable alternative exists

4.3 CROSSINGS

Cyclists are most vulnerable at crossings where cars can cut over the bike lane to make turns. Car drivers may not give way to cyclists due to not seeing them, or not realising they have to give way. Car drivers sometimes speed up to make a turn in front of a cyclist. Both of these situations make intersections dangerous for cyclists travelling on a bike lane.

Intersections with a high volume of turning traffic or involving complicated negotiations, such as roundabouts, are all unsafe for cyclists and require special treatment.



Solid green lane and Vibra-line, Rathdown Street Carlton

4.3.1 Solid colour

Painting the bike lane solid colour (usually green, and including bike symbols) across intersections is an effective way to reinforce the lane’s priority across these points.

Note: Main roads are under the jurisdiction of VicRoads.

We will work (with VicRoads – where appropriate) towards making unsafe intersections on the Primary Cycling Routes safer by using solid bike lane painting in conjunction with bike lane symbols and signage.



4 The Bike Lane Network



4.4 INVITING

The Bike Lane Network, like the footpath network, needs to attract people to it because it is a beautiful and fun way to get around. The roads that people ride on need to be shady and protected from high winds.

4.4.1 Slow Traffic Conditions

See 'Slow Traffic Conditions' under 'Inviting' in the 'Footpath Network' section for details of why slowing traffic is important for safety and how to do it. Slowing traffic on Primary and Secondary Cycling Routes is essential to encourage young, elderly and novice riders out to ride.

Note: All speed limit issues are under the jurisdiction of VicRoads, following an initial assessment by Council.

We will work with VicRoads towards lower speed limits on the Primary and Secondary Cycling Routes of the Bike Lane Network.

4.4.2 Bike Parking



*Left: Parkiteer
Above: Sculptural Bike
rack, High Steet Northcote,
Right: bikes at South end
of Castlemaine Station*



Having abundant and high quality street-side bike parking options in our Town Centre Zones will send a clear message about the importance of cycling. However the culture of securing bikes in country towns is not the same as in the city, as can be seen at Castlemaine station with the current under-use of the Parkiteer bike locker, while the less secure (though still under cover) bike-loops at the other end of the station overflow.

There is scope for bike parking to be integrated into a community arts project in the way it has in High Street, Northcote where bike loops are also locally appropriate works of art.

We will, through the appropriate departments, work with the Castlemaine State Festival and/or other relevant arts organisations towards achieving township appropriate bike parking and street-scape enhancement through public arts.



4 The Bike Lane Network



4.4.3 Cycling in the workforce

Commuter cyclists can require secure bike parking, showers, laundry service and/or clothes storage at their work places to make cycling a viable option. The provision of pool bikes with the right encouragement can also increase cycling for work purposes. Workplaces that provide good facilities and incentives can encourage active transport in their workforce. An active workforce benefits everyone with better health outcomes for the employee and lower absenteeism and a more focussed workforce for the employer.

We will work with our own staff and local employers to encourage cycling to and from as well as for work purposes.

4.5 CLEAR

The Bike Lane Network like the footpath network requires good signage, maps and markings (Wayfinding). Wayfinding for all three walking and cycling networks is addressed in section 7 of this report.



5 The Trail Network



The Trail Network is made up of many different types of off-road paths, trails, tracks and footways. At the moment these disparate paths are not linked together as a network, and don't link into our towns. The Trail Network will be for walkers and cyclists of all types who want to travel in a car-free environment.

To be effective and to be used the Trail Network needs to:

- Be **connected** into and out of towns and to the other two networks at pivotal places
- Be of sufficient **quality** and provided with appropriate facilities
- Avoid **crossings** and intersections with other vehicles
- Be **inviting**, attractive and safe
- Be **clear** and easy to understand



The most important routes on the Trail Network will be identified as “Primary Trail Routes”. These routes will create off-road connections into townships and in some cases between townships in the Shire. The Primary Trail Routes will connect up to existing and new Secondary Trail Routes. These will be the existing, improved or new trails that are used by recreational walkers and cyclists. The Primary Trail Routes will also connect to or even be a part of other existing trails like the Great Dividing Trail.

5.1 CONNECTION

5.1.1 Going to Town

Primary Trail Routes will serve both recreational and transport walkers and cyclists by providing off-road access into our towns. In many cases this will be along the creeks that many of our towns are situated near. Ideally Primary Trail Routes will provide access through town without interaction with traffic. This will involve the use of bridges and underpasses. In many cases this will be a major undertaking, but keeping the trails ‘off-road’ is an important feature of the network’s appeal to the community.



One of the bridges that creates a barrier to off-road trail access

Primary Trail Routes should connect to the schools in our townships, providing safe and enjoyable off-road access to school. These routes will also link to the Footpath and Bike Lane Networks extending access to the places each of these networks afford. The ‘nodal’ points between the three networks will be the best place for facilities like public toilets, shaded seats and drinking fountains.

We will work towards Primary Trail Routes that have the following characteristics:

- *Provide off-road access into our towns*
- *Provide access through towns without interaction with traffic, or reducing interactions with traffic to a minimum*
- *Connection to the Footpath and Bike Lane Networks at ‘nodal’ points*
- *Access to public toilets, shaded seats and drinking fountains (see 5.2.2 Public Toilets, Shaded Seats and Drinking Fountains)*
- *Be of sufficient quality to allow access to someone in a motorised mobility aid (see 5.2.1 Trail Surface and Access)*



5 The Trail Network



5.1.2 Going Bush

Secondary Trail Routes will primarily be used for recreational purposes, but will have transport functions for some people in our community. Secondary Trail Routes will provide off-road access out of our townships to the places of environmental, historical or recreational interest that draw people to the Shire.

The existing trails and walks that have been identified in the Shire will all be connected back to their nearest township along Primary or Secondary Trail Routes. Likewise many mountain biking trails will be accessible via Secondary Trail Routes.

We will work towards Secondary Trail Routes that have the following characteristics:

- *Provide off-road access out of towns to places of environmental, historical or recreational interest*
- *Connects to Primary Trail Route*

5.1.3 Rail trails

Existing informal trails along the Maldon to Castlemaine and Newstead to Castlemaine railways could be improved and opened to walkers and cyclists creating off-road, inter-town access. These Secondary Trail Routes would service keen cyclist commuters as well as be very attractive for recreational walkers and cyclists.

If these two trails were completed, a quality off-road trail between Maldon and Newstead should be explored and established to create a loop that could be a great tourism drawcard for the area. Some funding for rail trails is available through the Victorian Cycling Strategy.

Any rail-based trails should not be made at the expense of future rail options, which are of great potential to walkers and cyclists. (see 5 'Integrating with Public Transport')

The Coliban water-race also offers an off-road option between Taradale and Harcourt, which could be connected to Castlemaine via the Great Dividing Trail, or a more direct route from the Harcourt end.

All of these trail options will need to be considered in terms of the recently revised legislative requirements and the interface agreements currently being prepared between all road and rail authorities.

We will work with VicTrack, Coliban Water, Parks Victoria, Victorian Goldfields Railway and other relevant authorities towards securing these trails for the community's use.

We will explore the opportunities for State and Federal funding for these trail developments.



5 The Trail Network



5.1.4 Shared footways

Shared footways are paths that allow for walkers and cyclists on the same infrastructure. Shared footways form part of all three networks, but are most relevant to the Trail Network as they provide for walkers and cyclists. Shared footways will be avoided in the main parts of our Walking Zones, as blending cycling with walking compromises both modes by threatening some walkers and disrupting cycling movement.

Where road reserves allow, shared footways will be used on the edges of the Walking Zones and in the Cycling Zones to provide access to important places on the edges and outskirts of our townships. For example shared footways might be appropriate from Harcourt Township to the Recreation Reserve, or from Castlemaine to the Steiner School.

Shared Footways will be a minimum of 2.5 metres wide to allow most blends of walkers and cyclists to pass safely and comfortably.

We will use 2.5 metres wide shared footways on the edges of the Walking Zone that connect specific locations on the outskirts of our towns back to the Footpath and Bike Lane Networks



5.2 QUALITY

5.2.1 Trail Surface and Access

The Trail Network will have a range of different widths and surfaces. Unlike the footpath network we do not want the Trail Network to be completely 'tame', as for some users (i.e. bushwalkers or mountain bikes) the roughness of the terrain is at times part of the appeal of these trails.

In most cases the Trail Network will be un-made, but Primary Trail Routes will be of appropriate width, grade, surface smoothness and with appropriate drainage to allow a person in a motorised mobility aid to access many of our outlying attractions.

In many cases Secondary Trail Routes will be single file only and at times too rough for anyone except the very able bodied.

We will work towards Primary Trail Routes that allow access to a person in a motorised mobility aid with particular focus on those trail routes that connect to townships and the other two networks.

(see 11.3.1.1 Staff using mobility aids and bicycles)



5.2.2 Public Toilets, Shaded Seats and Drinking Fountains

Outside our townships access to good infrastructure like public toilets, shaded seats and drinking fountains becomes harder to provide. Appropriate points on the Trail Network will be identified to provide these facilities, and where possible share these with existing or other facilities.



5 The Trail Network



We will work towards providing a Trail Network that has access to public toilets, seats in shaded summer locations and drinking fountains at acceptable intervals. (See also 3.2.9 for related actions)

5.3 CROSSING

The Trail Network will avoid crossing roads wherever possible. (See 'Going to Town' under 'Connections' in this section). In situations where separation is deemed prohibitively difficult, at-grade crossings that give walkers and cyclists priority will be installed.

We will work towards a Trail Network that avoids road crossings, or where road crossings are unavoidable provides at-grade crossings that slow traffic and give walkers and cyclists priority.

5.4 INVITING

Being inviting is one of the primary functions of the Trail Network. In many cases the places that people want to go to, and that the trails pass through, are already inviting enough, though some improvements can be made. In the case of the Trail Network, Landcare and 'Friends Of' groups will be considered major partners and be involved with the planning, planting and improvement along these trails.



Access to trails could be 'developed' away

We will work with local groups to improve the planting and amenity of the Trail Network.

Protecting the views, access and visual amenity around trails will need to be addressed as a planning issue.

We will work towards planning guidelines that will protect Primary Trail Routes against development that impinges on the access, views and visual amenity of these trails, and ensure compliance at a statutory and enforcement level.



5.5 CLEAR

The Trail Network more so than either of the other two networks requires good signage, maps and markings (Wayfinding).

Wayfinding for all three walking and cycling networks is addressed in section 7 of this report.



6 Town Centre Zones



6.1 STREETS FOR WALKING

Streets in our Town Centre Zones will be carrying the most traffic, but will need to be the most accessible and welcoming of streets for walkers.

Traffic speeds need to be at walking pace in these zones so that walkers can move easily and safely along and across the streets. Narrower streets and crossing points as well as mid-block curb extensions/chicanes and pedestrian refuges should be considered at regular intervals allowing for a highly permeable walking environment (see 'Intersections' and 'Mid-Block Crossings' under 'Crossings' in 'The Footpath Network' for details of these treatments). The use of an official 'Shared Zone', where vehicles and walkers share the road space will also be considered.

We will favour measures that slow traffic conditions and create short crossing points at regular intervals in Town Centre Zones over formal pedestrian crossings. Where pedestrian crossings are still deemed necessary for vulnerable road users these treatments may be augmented with other measures that increase pedestrian accessibility. (see 3.3.2 Intersections and 3.3.3 Mid-Block Crossings for details of these treatments).

6.2 CYCLISTS IN TOWN

Our Town Centre Zones will accommodate bicycles, but not at the expense of an excellent walking environment. Like motorised vehicles, cyclists will move at walking pace while still having very good access to all the shops and community spaces that they want to get to and lots of spaces to park bikes.



7 Wayfinding



Wayfinding is a term used to describe the group of things that help us navigate our surroundings.

Wayfinding includes:

- Street and location pointer signs – finger signs
- Map and locality guide boards
- It can also include printed paper maps and brochures

When integrated and co-ordinated these elements can work well to assist walkers and cyclists to understand:

- Where they are now
- Where they can get to (including all major attractions, facilities and amenities)
- How far it is
- Approximately how difficult it will be and
- Approximately how long it will take

We will work towards developing a clear, consistent, connected and complete Wayfinding system across the Shire that assists walkers and cyclists to comfortably navigate their way around.

7.1 MAP BOARDS

7.1.1 Main Map Board

Each Town Centre Zone will have at least one Main Map Board that shows the Walking Zone of that township in a simple, easy to read format with:

- Grid reference
- Street and Key Locations/Attractors index with grid reference
- Clear 'you are here' marker
- Walking distance circles from that point
- Approximate difficulty and time markers for key locations from that point
- Public toilets, drinking fountains and seats

Larger towns will have these boards in the Town Centre Zone as well as several other locations, including, township pedestrian entrances, key visitor points and public transport access points as pedestrian movement and access dictate.

7.1.2 Locality Map Boards

Smaller, simpler Locality Map Boards will be used at other Key Locations/Attractors points. These maps will be oriented to the view of the street (heads-up view), will contain less detail than the Main Map Boards, but will be easier to understand with a more 'exploded' three dimensional view of the area (see 'Castlemaine – Access and Walking' map as an example). Locality Map Boards will include:

- Street names
- Key Locations/Attractors
- Walking distance circles from that point
- Approximate difficulty and time markers for key locations from that point
- A smaller reference map showing location in Town Centre/Walking Zone



7 Wayfinding



The existing 'Victorian Goldfields Railway' map boards at Castlemaine and Maldon Stations are a good example of this kind of map board. Locality Map Boards in areas of particular interest can have different 'heads up' views on each side of the board. Locality Map Boards can be integrated with directional signage focusing on Key Locations/Attractors.

The three networks (footpath, bike lane and trail) will be clearly marked on the maps with points of connection between the networks highlighted.

7.2 DIRECTIONAL SIGNAGE

Street Name and Key Locations/Attractors signs across the municipality will integrate connectively and stylistically with Main and Locality map boards. These directional signs will be assessed for relevance to walkers and cyclists, making sure that information of specific interest is located at a height and in a way that relates to these modes.

7.3 MAPS AND BROCHURES

Printed paper maps and brochures are also an important part of the Wayfinding approach, with particular importance to the Trail Network and related historical or natural heritage walks and rides. Existing maps include:

- Free Castlemaine, Maldon, Newstead Townships street map
- Castlemaine/Maldon and Surrounds – Official Visitors Guide
- A Guide to Walking in the Mount Alexander Shire
- Castlemaine Access and Walking Map
- Great Dividing Trail Map/brochure

Opportunities for further maps and brochures exist in the following areas:

- Individual or clustered bush/historical walks maps and notes – Providing detail on specific walks listed in 'A Guide to Walking in the Mount Alexander Shire'
- Cycling and Walking Tourist Map – Noting food and accommodation options accessible to walking and cycling (see 'Bicycle and walking tourism opportunities' under 5.4)

We will continue to work with relevant local businesses and community groups towards the development of a consistent approach to maps and brochures that integrates stylistically with other Wayfinding infrastructure and publications.

7.4 HERITAGE

Given that much of Mount Alexander Shire is of heritage interest and value the stylistic approach to Wayfinding will be sympathetic to this, with care given to shape, colour and design. Heritage concerns will not undermine the clarity or legibility of any Wayfinding materials.



8 Lighting



Our primary walking and cycling routes need to be lit to a level that keeps them safe to walk or cycle on and allows them to be inviting spaces after dark.

8.1 LIGHTING FOOTPATHS AND BIKE LANES

In many cases existing street lighting will be sufficient to light our Primary Walking and Cycling Routes. Where street lighting is insufficient these routes will have supplementary lighting to a level that makes them safe and inviting after dark.

This is particularly important where Primary Routes go through parks, riversides or places away from houses or shops. These more remote locations have a perception of danger around them, and need to be as inviting as possible after dark to ensure use by more vulnerable walkers.

8.2 LIGHTING TRAILS

Trails are by their nature more remote and removed from services than the footpath and bike lane networks. Trails are less likely to be used after dark as they tend to service groups who will generally avoid using them after dark. This is particularly true for recreational walkers or cyclists and primary aged children. Some secondary aged children and transport walkers and cyclists are still likely to prefer off-road options even after dark, though their activity would most likely be focused on Primary Trail Routes inside the Walking Zones of townships.

A lesser level of lighting on trails is acceptable as long as areas of safety concern and major nodes of interaction with the other networks are well lit. Lighting on the Trail Network will be focused on the Primary Trail Routes inside the Walking Zones.

We will use the annual footpath audit process to assess lighting levels along the Primary Walking, Cycling and Trail Routes and to respond to identified problems of lighting safety on these routes.

8.3 LIGHTING OPTIONS

Lighting has financial and greenhouse implications in its purchasing, installation, running costs and maintenance.

We will explore low energy – low maintenance options such as luminescent path markers or bollards, mains LED or T8 Fluorescent and solar LED lighting for footpaths, bike paths and trails.



9 Integrating with Public Transport



Public transport extends the range of walking and cycling giving access to distant areas of the Shire and the State. Walking and cycling extend public transport by filling in the gaps not covered, and allowing access to a much greater range of locations. Opportunities to integrate these three transport modes are important as integration improves the effectiveness of each of them.

9.1 RAILWAY STATIONS

The Shire has only one operating V/Line Station. Castlemaine station is a major gateway to the Shire providing fast and efficient access to Melbourne, Bendigo and elsewhere, and a hub for bus/coach access to the rest of the Shire and the region.

There are several other stations in the Shire that are not currently used on the operational Melbourne – Bendigo line, and the un-operational Castlemaine – Maryborough (through Newstead) line.

9.1.1 Steam Rail

Maldon, Muckleford and Castlemaine stations are utilised by the tourist oriented Victorian Goldfields Railway, which operates two days a week. This service presents a great opportunity for integrated rail and walking or cycling based tourism in the Shire. This opportunity would be greatly enhanced by the opening of a walking and cycling trail between Maldon and Castlemaine (see ‘Rail Trails’ under ‘Connections’ in ‘The Trail Network’ section). Victorian Goldfields Railway offers limited opportunity for inter-Shire commuting currently, though with extended services and commuter fare options this could be developed as a feasible service to locals.

We will continue to work with Victorian Goldfields Railway to expand tourist and transport options in the Shire, particularly those that promote and integrate with walking and cycling

9.1.2 Castlemaine Station – Kennedy Street, Templeton Street Intersection

The Kennedy/Templeton Street intersection is a particularly important walking access point between the Castlemaine Station and the town centre. The intersection does not adequately provide for the level of pedestrian activity it currently receives. A pedestrian crossing at this intersection is important given its importance and its level of use.

We will modify this intersection to improve safety and pedestrian access between Castlemaine station and township, utilising the guidelines laid out under 3.3.2 Intersections.



9 Integrating with Public Transport



9.1.3 Improved Pedestrian Access Out of Station

Pedestrian access out of Castlemaine station, particularly from platform one is poor, with the Eastern carpark, coach stop and related vehicle access points taking up the full front of the station building. Pedestrian 'desire lines' cut straight through this area from the front door on the Eastern side of the building to either side of Kennedy Street. At peak service times waves of people exit the building across this space. This situation is unsafe.

The Station's pedestrian access could be improved to allow direct, easy and safe access from the Kennedy/Templeton Street intersection into the station building. Better promotion of the currently under-utilised Western car park could assist in reducing vehicular movements on the Eastern side and free up space for coach access away from the pedestrian desire lines. Pedestrian access out of Bendigo station could be used as a model.

Note: V/line and Vic Track are the authorities responsible for this infrastructure.

We will work with V/line and Vic Track and advocate for the improvement of pedestrian access, amenity and safety at Castlemaine station.

9.2 BUS/COACH ROUTES

There are numerous bus and coach routes in the Shire offered through V/line and Castlemaine Bus Lines. Good walking access to and from bus and coach 'stops' is important and effort will be made to link existing stops with the Footpath network.

Bicycles are generally not allowed, not specifically catered for or not encouraged on bus and coach services. This could be changed to services actively catering for and encouraging bicycle integration. This has been achieved in many countries with buses and coaches providing storage under the vehicle or on racks mounted to the vehicle. The potential benefits that bikes and bus/coach services offer each other is enormous.

Current bus and coach services could be improved with the following:

- Stops being linked to the Footpath Network – especially in the Walking Zones of towns
- Access for bicycles on services
- Stops being linked to the Bike Lane and Trail Networks
- Better signage for designated stops
- Better timetable information at stops and through printed material
- Better integration of bus and coach routes and stops on maps
- Shelters and seats at stops

We will work with bus and coach service providers and the Department of Transport to advocate for quality bicycle access on their services.

We will continue to work with bus and coach service providers to provide better links with the Footpath Network, better signage and facilities at stops and integration of bus and coach information with other Council maps and publications.



10 Planning for Walking and Cycling



The policies and concepts articulated in this Strategy should be recognised and integrated into the Municipal Strategic Statement (MSS) that is due for review in 2010. The Walking and Cycling Policy at the start of this document as well as some of the concepts of the Strategy such as the 'Three Networks', the importance of the 'Primary and Secondary Routes' and the 'Town Centre Zones' can all contribute to better outcomes for walkers and cyclists in the Shire if integrated into the MSS.

Mount Alexander Planning Scheme already requires consideration of walking and cycling issues in new development. The Scheme addresses:

- The provision of walking paths
- The location of community facilities and residential development to encourage walkable neighbourhoods
- Planning and design to create safe and walkable town centres

The Planning Scheme also contains provisions for:

- Enhancing options for cycling through the developments of on and off road networks in new and existing urban areas, and between urban areas
- Facilities for bikes and cyclists in new commercial and community developments

There is however scope to create specific local policies that more fully reflect the improvements needed for walkers and cyclists in Mount Alexander that are not currently addressed. The work that Baw Baw Shire has done in this area with its 'Active by Design' process is an example of excellent planning in relation to new developments creating good walking and cycling conditions¹⁴, however improvements beyond 'new developments' also need to be made.

This Walking and Cycling Strategy and the design guidelines it articulates (attached as a concise list) can also inform local policies and/or be used as a reference guide.

There are several planning issues already raised in this Strategy for inclusion in local planning policy, they include:

- Protection of pedestrian (and cycling) access ways (3.1.1 Opening Lanes, Dead-End Streets and Other Blockages)
- The development of footpath trading guidelines (3.2.2 Footpath Guidelines)
- Reduced impact on footpath due to construction works (3.2.2 Footpath Guidelines)
- Improvements to footpath crossovers at driveways (3.2.6 Driveways)
- Improvements to footpath crossovers at Road Related Areas (3.2.7 Road Related Areas)
- Shading and seasonal comfort for pedestrian spaces (3.4.1 Shade and Beauty)
- Clearer verandas guidelines for retail and commercial development adjacent to footpaths (3.4.1 Shade and Beauty)
- Protection of the access, views and visual amenity along Primary Trail Routes (5.4 Inviting)
- Ensure compliance with the above policies at a statutory and enforcement level

We will work towards the following planning improvements:

- *Integration of the Walking and Cycling Strategy policies and guidelines into the MSS*
 - *A clearer articulation of what all major new developments need to do to design for walking and cycling from the ground up (Active by Design approach)*
 - *All town planning processes prioritising 'vibrant and attractive walking and cycling environments'*
 - *Training for statutory planners around existing and proposed walking and cycling policy*
-



11 Community Engagement



The best walking and cycling infrastructure in the world is useless if it is not used. Equally the worst walking and cycling conditions in the world can be improved if people drive slowly and respectfully and begin to walk and cycle more.

In fact research by Peter Jacobsen a public health expert in the U.S. has concluded that “a motorist is less likely to collide with a person walking and bicycling if more people walk or bicycle”. Jacobsen therefore suggests that “policies that increase the numbers of people walking and bicycling appear to be an effective route to improving the safety of people walking and bicycling”.¹⁵

Along with improving the infrastructure for walking and cycling, Council needs to play an active role in:

- Promoting walking and cycling in the community
- Encouraging safer driving behaviour
- Modeling a good walking and cycling culture inside its own organisation
- Encouraging walking and cycling related businesses and business opportunities in the Shire

11.1 PROMOTING WALKING AND CYCLING

Councils around the world are taking a leadership role in changing the culture of their area towards walking and cycling. In Australia, many Councils have worked with local schools, elderly citizens, workplaces and the general community on walking school buses, Bike Ed, walking groups and pedometer challenges, TravelSmart, Ride and Walk to Work days and other walking and cycling promotion.

11.1.1 Schools

Schools are one of the first places that are thought of for promoting walking and cycling, the logic being that good travel behaviour at an early age will lead to better behaviour as an adult. This reasoning has merit though the role of parents in dictating travel behaviour and the general use of cars in the community creating a culture of fear around children walking and cycling are factors that can't be ignored.

It is important to recognise that most schools have little capacity to take on new projects without external funding or assistance. If we work only with school communities to improve walking and cycling it could be seen as a tokenistic gesture, however in the context of a 'whole of community approach' schools can be a great place to focus community efforts in reducing car use.

There is great scope for Council working with State or Federal Government funding bodies to deliver walking and cycling programs in local schools. With support from Council, other bodies and the wider community schools can:

- Establish parent-assisted walking or cycling groups for younger Primary aged children (this might use the 'Walking School Bus' approach or take other forms)
- Establish peer-assisted walking or cycling groups for older Primary and Secondary aged children
- Run the Bike Ed / Cycle-On programs
- Offer undercover secure bike parking for cycling to school



Bikes overflowing at Castlemaine Primary School



11 Community Engagement



- Run class transport counts and challenges with incentives for active transport behaviour and improvement
- Help identify key physical and cultural barriers to walking and cycling and develop innovative approaches to overcoming these
- Explore limiting school bus access within the walking zone to encourage active transport to school

11.1.2 Health promotion

The health benefits of walking and cycling are well recognised, and walking and cycling for recreation and transport are promoted by VicHealth, The Heart Foundation, local Community Health Organisations and government initiatives like ‘Go For Your Life’, amongst others, as well as by local health agencies. Council can provide the link between the infrastructure for walking and cycling and the government and community promotion of healthy lifestyles.

11.1.3 Community Organisations

There are many groups in the community that have specific interest in walking and cycling from a range of perspectives. These groups include:

- Sporting groups/clubs – specifically walking and cycling groups/clubs
- Elderly citizens groups
- Environment groups
- Community Health Organisations

We will work with these groups towards increasing walking and cycling at a grass-roots level in the Shire.

We will see these groups as partners in informing Council of the quality, problems and possibilities for walking and cycling infrastructure.

11.1.4 Workplaces

Workplaces in the Shire can play an important role in promoting walking and cycling to their workforce for travel to and from work as well as for work purposes. (“Cycling in the workforce” is addressed in section 3.2). The State Government’s Travel Smart initiative has specific workplace programs for promoting walking and cycling, as well as public transport use.

We will encourage other employers in the Shire to follow our lead and develop ‘Green Travel Plans’ for their staff and workplace.

11.1.5 Information

Maps, brochures and pamphlets can all help with increasing walking and cycling in the Shire. These printed materials form part of the Wayfinding approach, but are specifically important to visitors to the area.

We will work with local interest groups to provide the best quality and most up-to date information about walking and cycling options in the Shire. This will also need to be combined with food and accommodation options that are available close to the three networks.



11 Community Engagement



11.1.6 Walking and Cycling Advisory Committee

We will establish a Walking and Cycling Advisory Committee with representatives of walking and cycling for Transport, Recreation and Tourism to provide input and inform activities and decisions around walking and cycling. The initiatives in this Strategy will also be monitored by this group and continue strategic thinking on walking and cycling in the Shire.

11.2 DRIVER BEHAVIOUR

As stated in section 3.1 “Driver behaviour/Culture change” drivers’ behaviour can make a huge difference to the quality and take-up of walking and cycling in the Shire. We need to foster a culture of respectful and courteous driving in the Shire. The following qualities will be noted for promotion:

- Driving slowly in local streets and where walkers and cyclists are
- Respecting pedestrians and cyclists as legitimate road-users and understanding and obeying road rules in relation to them
- Choosing to replace the car with walking or cycling for local trips where possible
- Not accelerating or breaking hard as they threaten other road users, waste fuel and create more fumes

We will promote improved driver behaviours through Shire News, other news outlets and a Local Safe Driving Award.

We will continue to work with local Police towards enforcement focused on the issues that have the greatest impact on walkers and cyclists:

- Speed on major walking or cycling routes
- Drivers not giving way to pedestrians when leaving driveways, or turning across footpaths or at intersections.
- Cars blocking footpaths

11.3 COUNCIL AS A MODEL

Council must lead by example with the promotion of walking and cycling to and from as well as for work purposes. This could take the following forms:

- Audit and improvement of end of trip cycling facilities
- Clear directive from CEO or directors that bike use is encouraged and supported
- Inter-department challenges/incentives for department that uses bikes for work, and to and from work the most
- Offer advanced riding training for staff who are riding regularly for work purposes

We will build on the work we have done with our Pool Bikes to ensure their expanded use for work purposes, and to encourage walking and cycling to and from work as a healthy lifestyle choice.

11.3.1 Staff With Specific Roles Relating to Walking and Cycling

It is important the engineering staff and other Council officers whose work relates to walking and cycling understand the people they are providing infrastructure for. This understanding is enhanced by travelling as those people do. Understanding in this area will only come by doing.

11.3.1.1 Staff using mobility aids and bicycles

Relevant Council officers will be provided with bicycles, wheel chairs and prams to use for assessing walking and cycling infrastructure. Assessments relating to walkers and cyclists need to be understood from the perspective of those particular road users.



11 Community Engagement



11.3.1.2 Training for Staff

Relevant Council officers will receive specific training and professional development opportunities in the area of walking and cycling to assist with the delivery of this Strategy and to keep abreast of best practice in this area. Current providers of training include Bicycle Victoria and The Cycling Promotion Fund, though other options should also be explored.

We will provide specific training and professional development to relevant staff in the area of walking and cycling infrastructure and awareness.

11.4 BUSINESS OPPORTUNITIES

Walking and cycling are inherently local. Local shops and businesses stand to gain much by supporting these modes of transport for shopping. Walkers and cyclists are less likely to go to Bendigo or Maryborough for shopping trips. There are also great business opportunities in walking and cycling that Council's Economic Development Officer can encourage.

11.4.1 Incentives for Walking and Cycling

Council could explore working with local businesses to develop an incentive scheme for encouraging shopping on foot or by bike. This initiative could replace an existing petrol discount scheme that encourages car use – that is more likely to assist locals take their business out of the Shire. Several businesses /stall holders at the Wesley Hill Market already offer discounts to bike riders.

11.4.2 Bicycle and walking tourism opportunities

Walking and cycling tourism could be an even greater attractor to the Shire. A system will be developed for providing information on food and accommodation options in the Shire that encourage and provide for walkers and cyclists, to allow visitors to holiday in the Shire without the need for a car. Such a system would note access to walking and cycling routes as well as facilities like bike parking, laundry services or wet weather transport back-ups.

11.4.3 Cycling and Walking Business Development

There are a high concentration of businesses in the Shire that already provide products and services relating to walking and cycling, including Bike Shops, Bike Courier Service, Bike Bags/Panniers manufacturing and Electric bike kit company (amongst others). This area of business development is only likely to grow as the Shire further promotes and encourages walking and cycling.

We will explore opportunities to encourage and expand walking and cycling business in the Shire through our business development area.

11.5 WORKING TO ENCOURAGE WALKING AND CYCLING

There are more tasks listed above than could be performed by one person, so the role would need to be focused on specific areas of community engagement that link best with improvements in infrastructure to ensure the facilities that Council are working on are well utilised by the community.

The Healthy Transport Officer (or other title) would work with Council's Access, Environment and Recreation Officers as well as any health promotion workers and relevant infrastructure staff.

We will explore funding opportunities for the creation of a 'Healthy Transport Officer' (or other title) to oversee the initiatives detailed in section 11 of this Strategy.





12 Measurement and Assessment

This Strategy sets out to improve and increase walking and cycling in the Shire. Opportunities to improve walking and cycling have been identified within this document. Measuring how many of these improvements have been made will be simple enough by noting what has or has not been done and where work is up to if not yet completed. Measuring the increase in walking and cycling will be more difficult.

There is currently little useful data on walking and cycling in Mount Alexander Shire. Australian Bureau of Statistics census data gives us figures on walking and cycling to work, but as this captures less than 32% of the population it does not provide us with a complete picture of our travel behaviour.

We will develop a set of indicators and measures in consultation with the Walking and Cycling Advisory Committee to assess whether walking and cycling are increasing and improving in the Shire. To do this quality baseline data will need to be established within the next year and then conducted annually or at regular intervals.

Measures that might contribute to this baseline data include:

- Bicycle tube counts on main bicycle routes
- Pedestrian Activity survey/counts (Could be done in conjunction with local tertiary institution using student input, i.e. LaTrobe Bendigo)
- Community survey through Walking and Cycling Strategy consultation
- ABS travel to work data
- V/line bike counts at Castlemaine Station
- Schools survey – assessing travel behaviour and cycling infrastructure at school
- Community satisfaction survey – additional question to specifically cover how well Council provide for walking and cycling

Given the lack of decent baseline data it would be misguided for this Strategy to detail specific targets for increases in walking and cycling. Targets will be set once quality baseline data is established in the first year. The setting of targets associated with this Strategy should be done in consultation with the Walking and Cycling Advisory Committee (See 11.1.6). In some instances specific measurements will be used before and after a new development or improvement in walking and cycling infrastructure to measure the specific effect of that work.

We will develop a set of targets in consultation with the Walking and Cycling Advisory Committee after quality baseline data is established.

12.1 GREENHOUSE IMPLICATIONS

When walking and cycling replace car trips they reduce the Shire's overall Greenhouse emissions. This will contribute to Council's community greenhouse target. Opportunities for collaboration with Council's Environment Officer on projects and data collection will be supported.



13 Implementation



To assist with delivery, the actions detailed in this Strategy are restated clearly in one of three attachments:

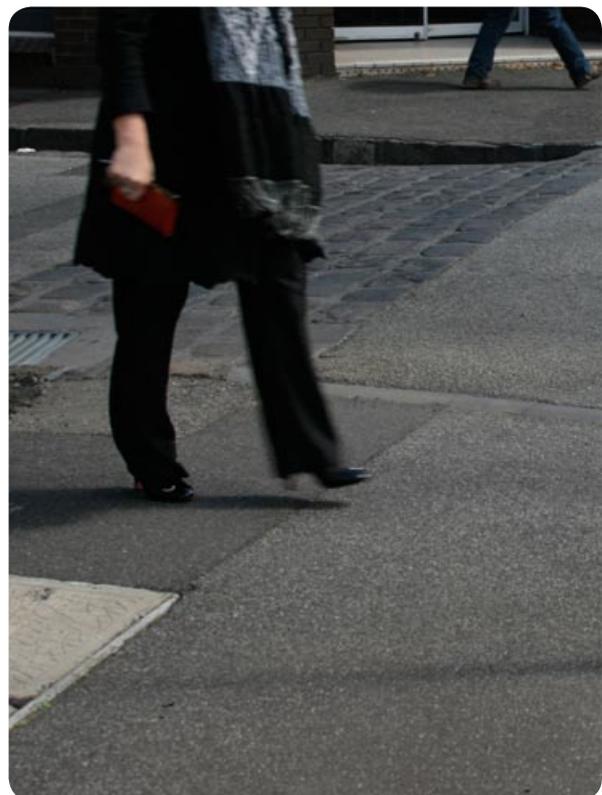
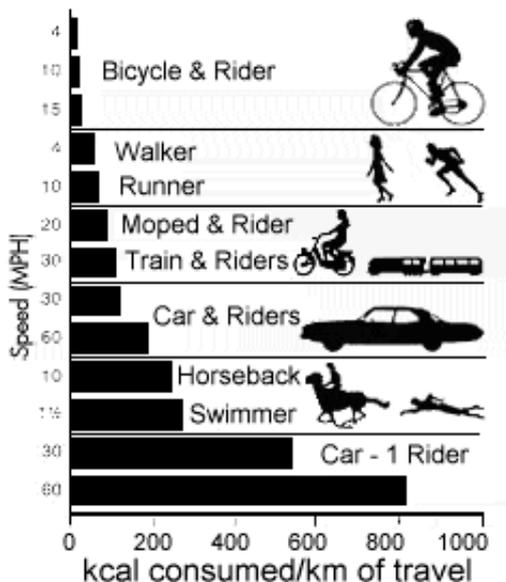
- A Task List – Noting tasks to be completed, details of those tasks, responsible departments and, where applicable timelines
- A set of Design Guidelines – Laying out the recommended engineering details for each of the three networks
- A list of Policy Statements

Specific infrastructure actions arising from the guidelines of this Strategy will be incorporated into Council’s Annual Plan.

14 Appendices

14.1.1 Efficiency of Different Travel Modes

“The Bicycle: Vehicle for a Small Planet” 1989. M. Lowe, Worldwatch Institute



15 Attachments



The following documents form part of this Strategy

1. Maps

Maps included in this Strategy are:

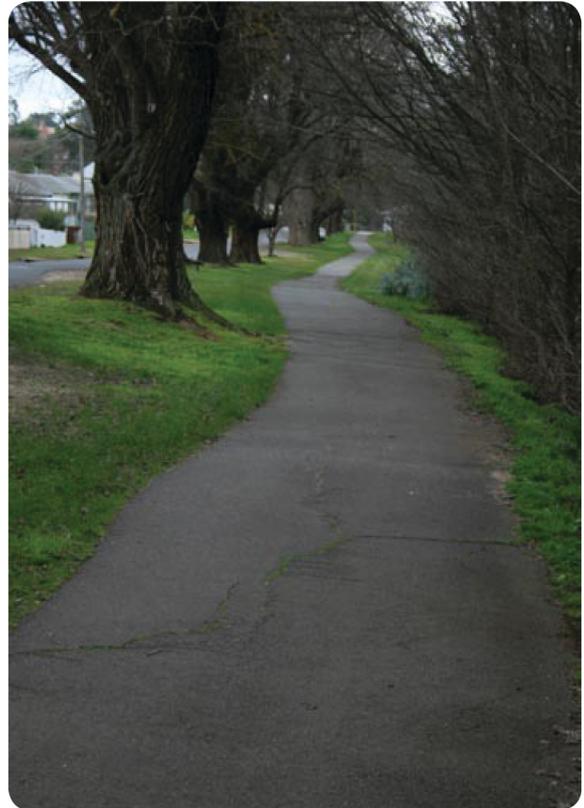
- Municipality Walking and Cycling Zones
- Campbells Creek - Three Networks
- Castlemaine - Three Networks
- Chewton/Wesley Hill - Three Networks
- Elphinstone/ Taradale - Three Networks
- Harcourt - Three Networks
- Maldon - Three Networks
- Newstead/ Guildford - Three Networks
- Shire Walking and Cycling Routes

2. Task List

16 Reference Documents

The following documents are provided as support for this Strategy

1. **Walking and Cycling Strategy - Design Guidelines**
2. **Walking and Cycling Strategy - Policy Statements**
3. **Walking and Cycling Strategy - Community Consultation Report**



17 Acknowledgements



This Strategy and its associated consultation was conducted and authored by Joel Meadows of the Green Hand Institute on behalf of Mount Alexander Shire Council.

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- Christine Henderson – Councillor
- Nick Lewis – Community Rep
- Andrew Butt – Community Rep
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- Jill Gibson – Community Rep

Those who helped with the Community Consultation

- Deanna Neville
- Mez Woodward
- Ella Meave
- Paddy O'Sullivan

Others who helped along the way

- Brad Welsh – Design
- Aileen Walsh – Council Media Officer
- Cath James – Support

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End notes

- ¹ The word 'walking' is used to define the basic form of mobility available to each individual. This therefore includes those who 'walk' with the aid of a stick or frame, a wheelchair or a motorised mobility aid.
- ² The terrain, directness of route, time taken at crossings and pace of the individual will all affect the actual time taken for any journey, the walking and cycling zones provide an indicative guide for manageable journey times.
- ³ Skateboards, rollerblades and other wheeled recreational devices or wheeled toys are defined separately to bicycles in the road rules, so must be considered as a separate category
- ⁴ "The Bicycle: Vehicle for a Small Planet" 1989. M. Lowe - Worldwatch Institute (See Appendix 14.1.3)
- ⁵ "The economic benefits of walking" 2006. M. Loveday - Walk21-VII
- ⁶ "Liveable Streets" 1981. D. Appleyard -
- ⁷ "Pedestrian fatality risk as a function of car impact speed" 2008. E Rosin, U Sanders. Autoliv Research, Sweden
- ⁸ Australian Standard AS1742 Part 10 and Austroads Part 13 Guide to Traffic Engineering Practice
- ⁹ A guide for choosing and using Motorised Mobility Devices – VicRoads Publication 2008
- ¹⁰ "Pedestrian fatality risk as a function of car impact speed" 2008. E Rosin, U Sanders. Autoliv Research, Sweden
- ¹¹ "Liveable Streets" 1981. D. Appleyard
- ¹² "The impact of lowering speed limits in urban/metropolitan areas" 2008. Archer, Fotheringham, Symmons, Corban. MUARC
- ¹³ "An evaluation of the 50km/h speed limit in Victoria" 2006. Hoareau, Newstead, Cameron. MUARC
- ¹⁴ http://www.bawbawshire.vic.gov.au/Page/page.asp?Page_Id=1772&h=1
- ¹⁵ "Safety in numbers: more walkers and bicyclists, safer walking and bicycling" 2003. P L Jacobsen -



18 Glossary of Terms



Bell Mouth – The widening of a road’s width where it intersects with another road

Bike Lane Network – On road for cyclists

Crossover – A point where vehicles cross over the footpath on to a road related area

Cycling – The activity of riding a non-motorised wheeled transport (bikes, trikes, scooters etc.) not defined as ‘wheeled recreational devices’ in the road rules. Bicycles with an auxiliary source of power (petrol or electric) under 200 watts are also included in the category of ‘bicycle’ under the road rules

Cycling Zone – A 5 km radius around a town centre - approx 30 minute ride

Footpath Network – Beside road, primarily for walkers

Intersection – The point where two or more roads meet

Known Cycling Routes – On-road routes that are known to carry a fair proportion of cycling traffic

Mid-Block Crossing – A crossing made at any point away from an intersection, can be a formal crossing ‘treatment’ or merely an informal crossing action

Pedestrian Blockages – Anything that slows, stops or impedes pedestrian movement

Pedestrian Breaks – Spaces created between rows of pedestrian blockers, i.e. rows of parked cars, rows of café barriers. Can be raised, or painted

Pedestrian Accessibility – The ability of a pedestrian to move easily and comfortably through an environment, inversely proportional to number of pedestrian blockages. Also referred to as ‘pedestrian accessibility’.

Pedestrian Refuge – A defined area between two lanes of traffic allowing pedestrians to cross a road in two stages, can be raised above road level or painted. Also called Pedestrian Storage

Primary Routes – The most important routes on each network - will be of the highest standard

Raised Pavement Crossing – A crossing where the footpath continues on at the same level creating a hump in the road

Road Related Area – Areas adjacent to or intersecting with roads that are not roads i.e. driveways, car parks

Secondary Routes – still play a connection role, do not carry as high a volume of traffic as Primary Routes, design guidelines not as stringent as for Primary Routes

Signalised Crossing – A crossing point controlled by traffic lights

Town Centre Zone – Main shopping/activity centre of a township

Traffic Calming – A range of, usually physical changes to the road environment to encourage slower driving

Trail Network – Off-road for walkers and cyclists – avoids road crossings or interactions

Tube Count – A technique used for measuring traffic speeds and volumes (and wheelbase type in some cases) by laying tubes across a road with a box that measures the air impulse from traffic passing over the tubes. Sometimes used to refer to the data from this technique

Unsealed – A road that does not have a concrete or asphalt capping

Vibra-line – A road marking technique that uses intermittent thermal paint to leave ridges in a lane marking. When driven across vibra-line creates a rumbling noise that alerts drivers. It is commonly used on highways and freeways to wake drowsy drivers.

Walking – the basic form of mobility available to each individual, therefore includes those who ‘walk’ with the aid of a stick or frame, a wheelchair or a motorised mobility aid

Walking Zone – A 2.5 km radius around a town centre - approx 30 minute walk

Zebra Crossing – a pedestrian priority crossing point denoted by striped white lines on dark road surface, accompanied by pedestrian ‘legs’ sign. Sometimes accompanied by flashing orange lights

85th Percentile – A methodology for assessing speed in any given road or stretch of road - if 85% of vehicles are at or under the speed limit when measured by tube counts the street does not need further treatment



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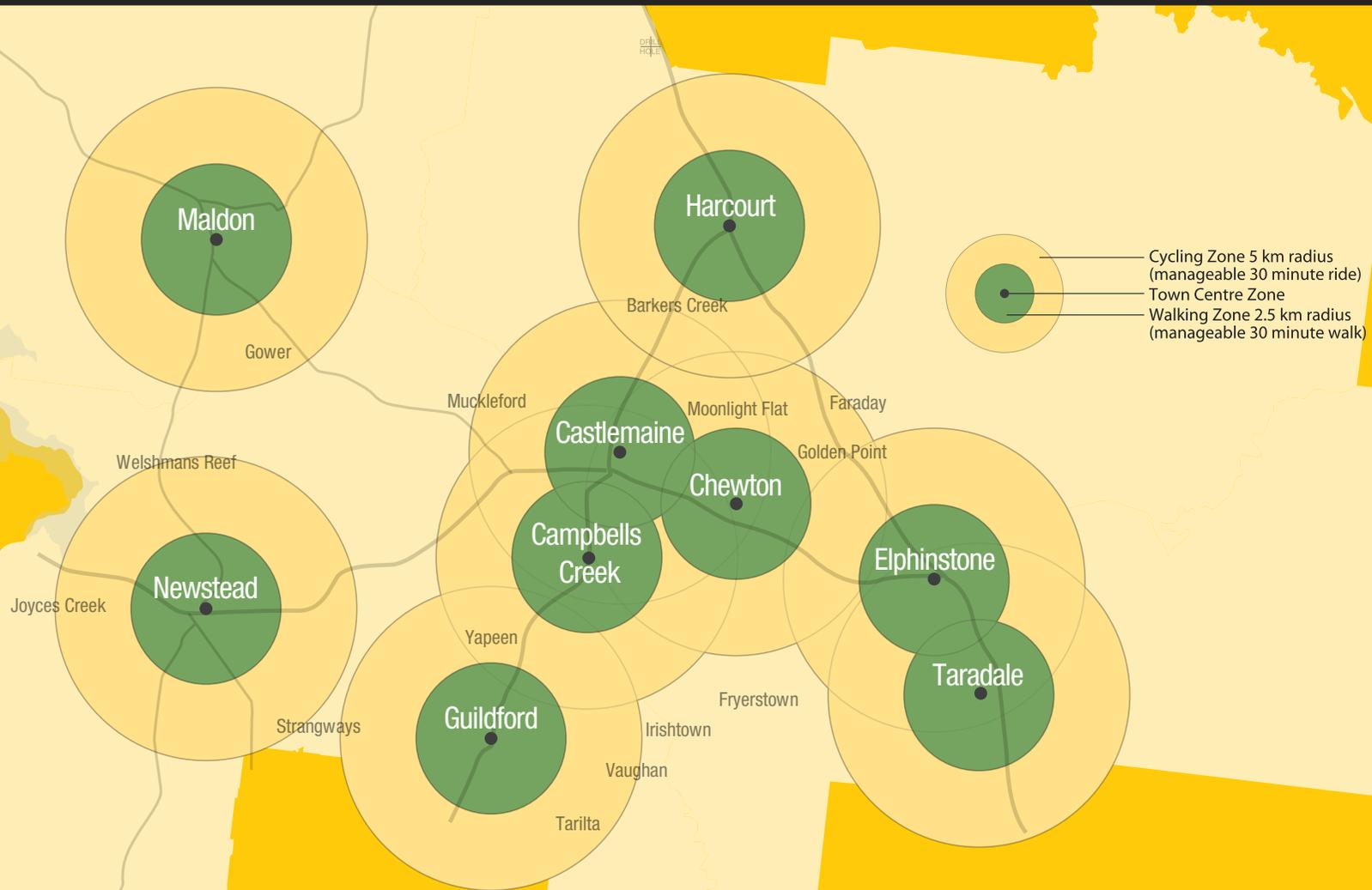
*Produced by the Green Hand Institute for
Mount Alexander Shire Council, December 2009*

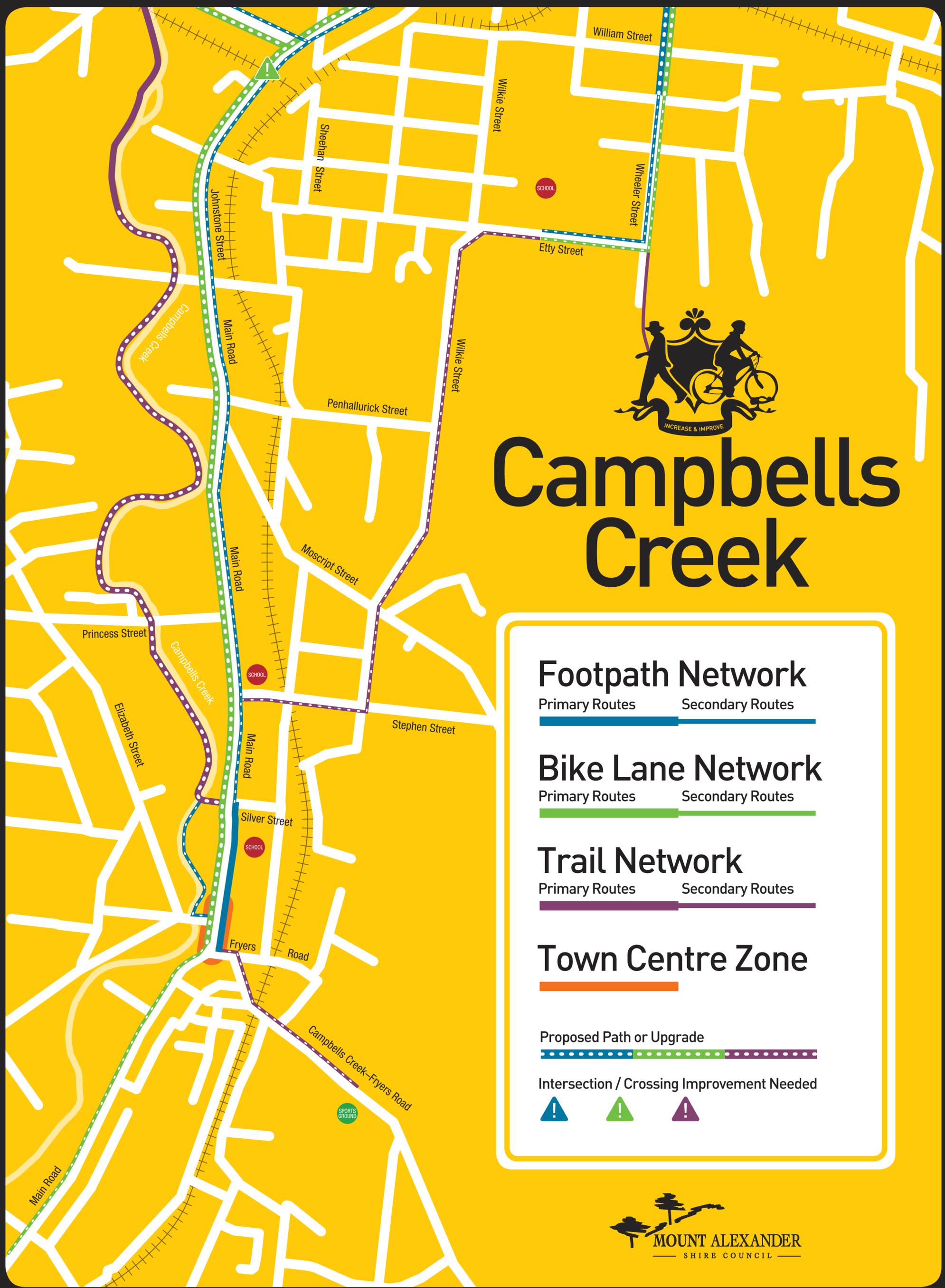




Conceptual Walking and Cycling Zones Map

Focused on 9 key population centres across the Shire – to provide a framework for the strategy.





Campbells Creek

Footpath Network
 Primary Routes Secondary Routes

Bike Lane Network
 Primary Routes Secondary Routes

Trail Network
 Primary Routes Secondary Routes

Town Centre Zone

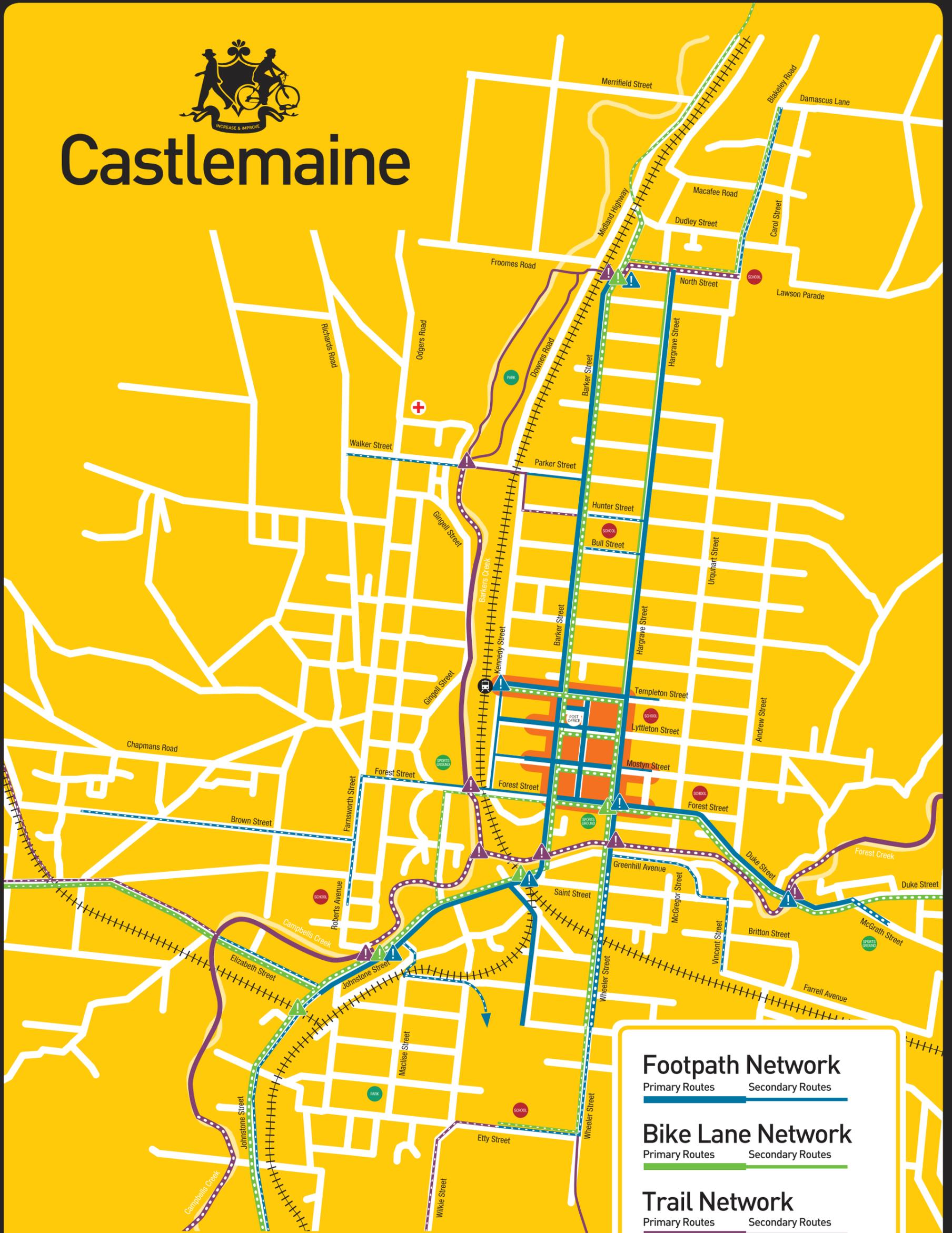
Proposed Path or Upgrade

Intersection / Crossing Improvement Needed

! ! !



Castlemaine



Footpath Network

Primary Routes Secondary Routes

Bike Lane Network

Primary Routes Secondary Routes

Trail Network

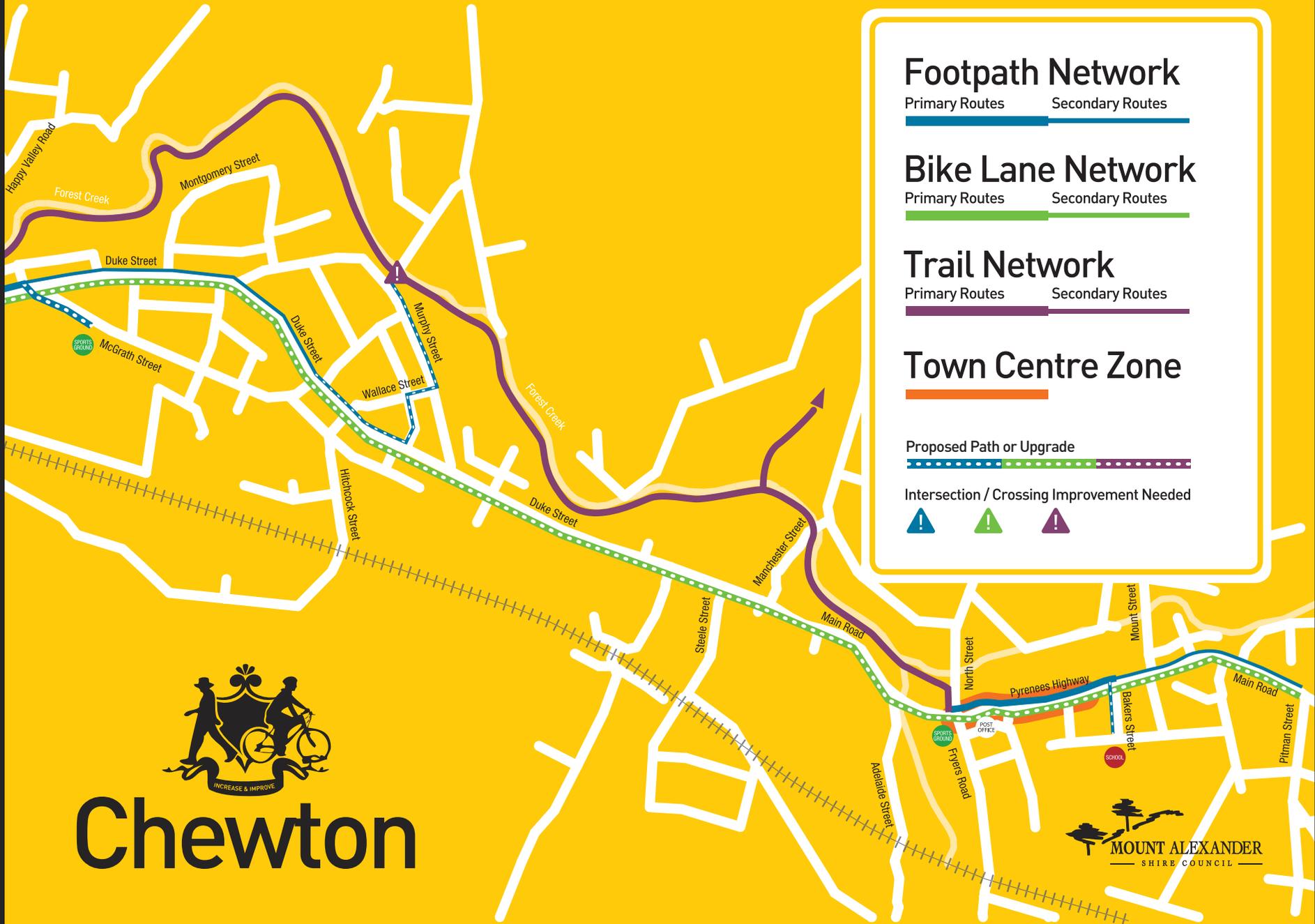
Primary Routes Secondary Routes

Town Centre Zone

Proposed Path or Upgrade

Intersection / Crossing Improvement Needed





Footpath Network

Primary Routes Secondary Routes

Bike Lane Network

Primary Routes Secondary Routes

Trail Network

Primary Routes Secondary Routes

Town Centre Zone

Proposed Path or Upgrade

Intersection / Crossing Improvement Needed

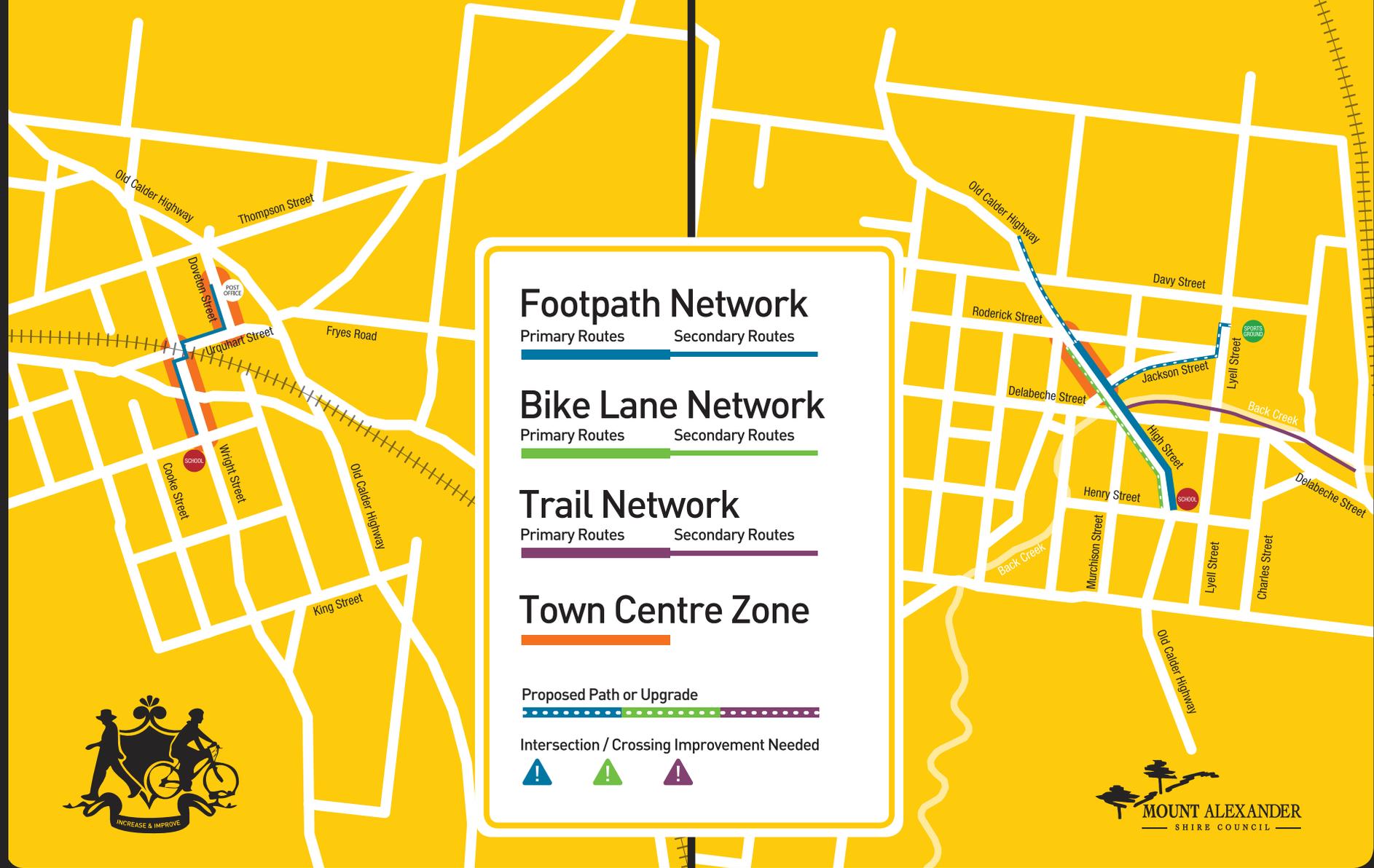


Chewton



Elphinstone

Taradale





Harcourt

Footpath Network

Primary Routes

Secondary Routes

Bike Lane Network

Primary Routes

Secondary Routes

Trail Network

Primary Routes

Secondary Routes

Town Centre Zone

Proposed Path or Upgrade



Intersection / Crossing Improvement Needed





Maldon

Footpath Network

Primary Routes Secondary Routes



Bike Lane Network

Primary Routes Secondary Routes



Trail Network

Primary Routes Secondary Routes



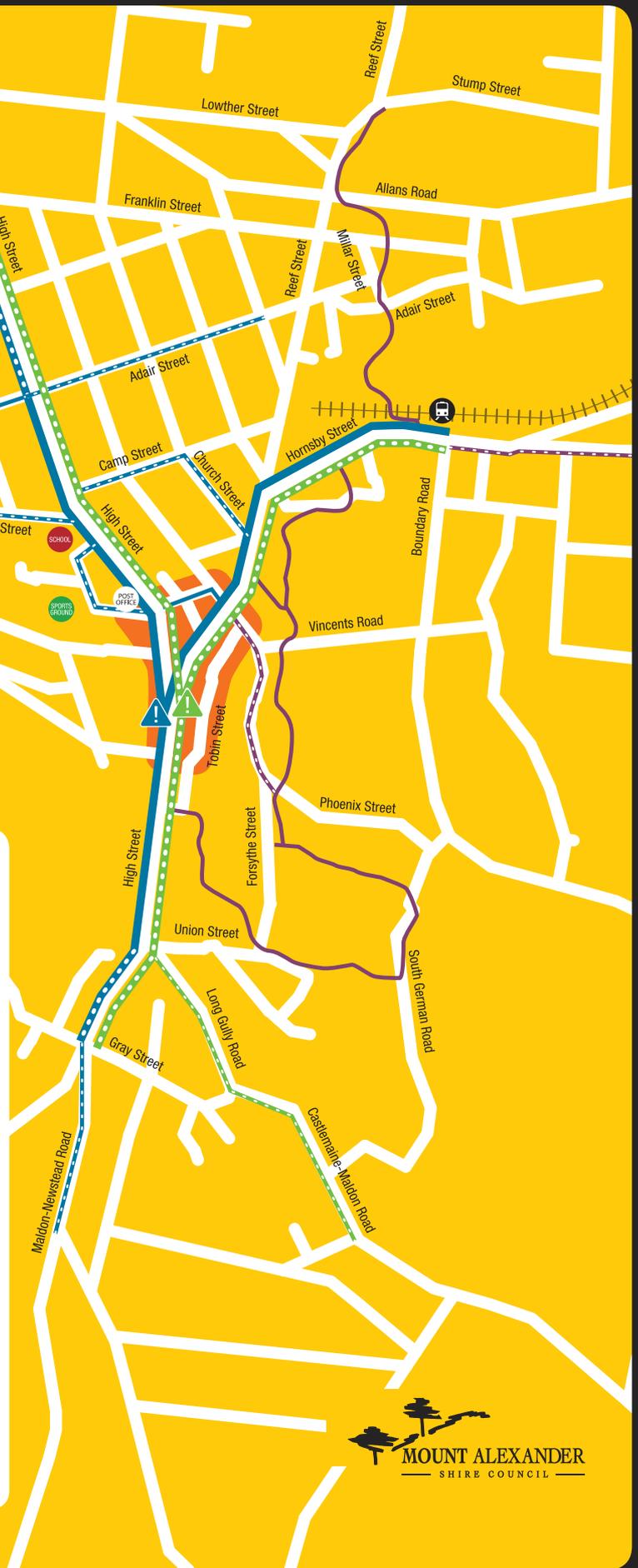
Town Centre Zone



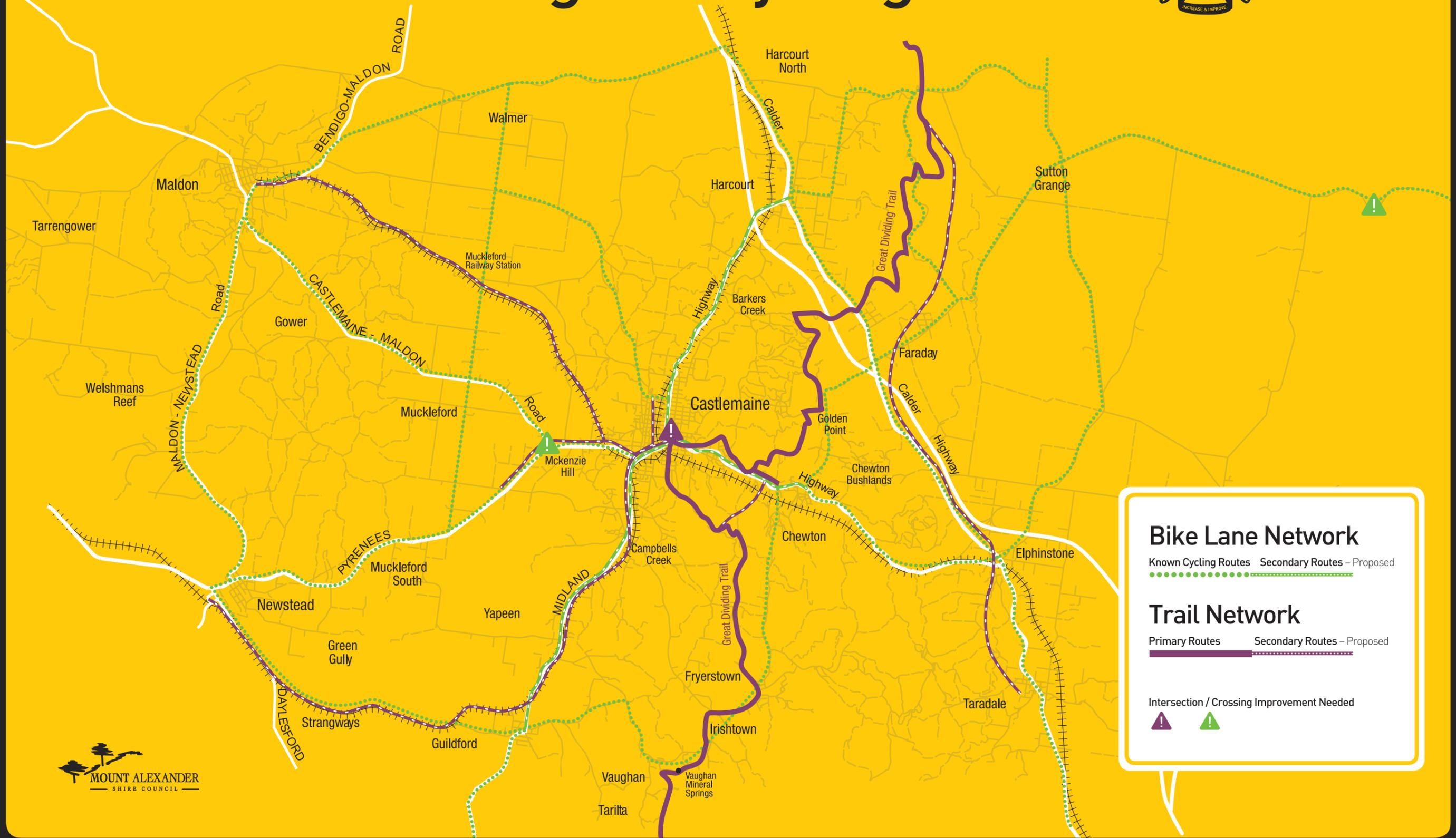
Proposed Path or Upgrade



Intersection / Crossing Improvement Needed



Shire Walking and Cycling Routes



Bike Lane Network

Known Cycling Routes Secondary Routes – Proposed

Trail Network

Primary Routes Secondary Routes – Proposed

Intersection / Crossing Improvement Needed

⚠ ⚠

Task List



Task / Strategy Ref	Details	Dept. / Partners	Priority	Cost Est.
Footpath Network				
Build Primary Footpath Connections 3.1 (See Strategy Maps)	Construct new or upgrade Primary Footpaths:	Infrastructure	H	\$55,000
	<ul style="list-style-type: none"> Castlemaine – Wheeler St. Greenhill to Yeats – approx 650m (Will connect to Secondary footpath to Senior Campus of HS) Castlemaine –McGrath St. Duke to Rec Reserve – approx 250m (Priority after crossing created at Duke St. Length will depend on crossing placement) 			
	<ul style="list-style-type: none"> Guildford – Midland Hwy. Extend existing at both ends from Short to Parker – additional approx 150m 			
	<ul style="list-style-type: none"> Maldon – High St. Adair to Franklin approx 460m 			
	<ul style="list-style-type: none"> Maldon – High St. Castlemaine - Maldon to Grey approx 290m 			
	<ul style="list-style-type: none"> Newstead – Pyrenees Hwy. Panmure to Layard (res) 130m 			
Create new crossings at key network locations 3.3.3 (See Strategy Maps)	Work with VicRoads to create new safer crossing points at key network locations:	Infrastructure / VicRoads	H	\$550,000
	<ul style="list-style-type: none"> Castlemaine - Barkers St. at North/Myring. <i>Signalised crossing</i> (Links all three networks) Castlemaine – Johnstone St. at School Crossing point. <i>Signalised crossing</i> (Links all three networks) Castlemaine – Duke St. between Happy Valley/McGrath. <i>Signalised crossing</i> (Links all three networks, placement will depend on Trail Network crossing options) 			
	<ul style="list-style-type: none"> Maldon – Intersection of Main and High Sts. 			
Build Secondary Footpath Connections 3.1 (See Strategy Maps)	<ul style="list-style-type: none"> Campbells Creek – Main Rd/Johnstone St. Silver to Elizabeth - approx. 2150m Campbells Creek – South extension of Campbells Creek Trail. Silver to Cemetery - approx. 350m Castlemaine – Blakeley Rd. North to Damascus - approx. 650m (connects to proposed Shared Footway on North) Castlemaine – Walker St. Barkers Creek to Richards – approx. 420m Castlemaine – Hunter St. Barkers to Hargraves – approx. 230m Castlemaine – Bull St. Barkers to Hargraves – approx. 230m Castlemaine – Wheeler/Etty Sts. Yeats to Senior High School Campus South West corner – approx. 680m Castlemaine – Shadforth/William Sts. Johnstone to Senior High School Campus North West Corner – approx. 400m Castlemaine – Forest/Farnsworth/Ray Streets. Gingell to Winters Flat PS – approx. 720m Castlemaine – Brown St. Farnsworth to Maltby. – approx. 1080m Castlemaine – Elizabeth St. Johnstone to Campbells Creek– approx. 860m. (connects to Campbells Creek trail and proposed Shared Footway) Castlemaine – Greenhill/Vincent St. Wheeler to Farrel– approx. 780m Chewton (Wesley Hill) – Farran/Wallace/VanHeurck/Duke Sts. Forest Creek Trail to Dick via Wesley Hill Market – approx. 770m Guildford – Turner/Franklin Sts. Midland to Guildford PS – approx. 300m Guildford – Fryers St. Midland to Ballarat – approx. 230m Maldon – Adair St. High to Ireland – approx. 520m Maldon – Camp/Church Sts. High to Reef – approx. 500m Maldon – Hospital St. High to Lawrence? – approx. 300m Maldon – Francis St. High to High – approx. 310m Maldon – Maldon-Newstead Rd. Grey to Popeks – approx. 420m Newstead – Lyons St. (Pyrenees) Codrington to Peel – approx. 250m 	Infrastructure / VicRoads	H	\$170,000
				\$30,000
				\$55,000
				\$35,000
				\$20,000
				\$20,000
				\$55,000
				\$35,000
				\$60,000
				\$90,000
				\$70,000
				\$65,000
				\$60,000
				\$25,000
				\$20,000
				\$40,000
				\$40,000
				\$25,000
				\$25,000
				\$35,000
	\$20,000			



Task List



	<ul style="list-style-type: none"> Newstead –Codrington/Canrobert/Panmure Sts. Lyons to Lyons – approx. 800m 	Infrastructure/ VicRoads		\$65,000
	<ul style="list-style-type: none"> Newstead – Hillers St. Lyons for approx. 100m 			\$10,000
	<ul style="list-style-type: none"> Newstead – Panmure St. Lyons for approx. 130m 			\$10,000
	<ul style="list-style-type: none"> Newstead – Creswick-Newstead Rd. Loddon River to Train Track approx. 480m (will connect to proposed bridge/trail) 			\$40,000
	<ul style="list-style-type: none"> Taradale – High St. Roderick to 50m North West of Davy – approx. 220m 			\$20,000
	<ul style="list-style-type: none"> Taradale – Jackson St. High to Sports Ground – approx. 370m 			\$30,000
Improve existing crossing /points (See Strategy Maps)	<p>Improve the safety and amenity of the following points:</p>	Infrastructure / VicRoads	M	\$500,000
	<ul style="list-style-type: none"> Castlemaine - Footpath under railway bridge on Johnstone St. – Footpath widths and fencing 			
Strategy 'Design Guideline' Compliance Audit of Primary and Secondary Footpaths (See right for Refs)	<p>Audit of Primary and Secondary Footpath Routes to assess compliance with Walking and Cycling Strategy Design Guidelines 3.2.2, 3.2.4, 3.2.8, 3.2.9, 3.3.2.1-2-3 & 4, 3.4.8 (See 'Design Guidelines' Strategy Attachment)</p>	Infrastructure	High - Annual	
Works relating to Design Guideline Compliance (as above for references)	<p>Use audit process to develop a works program to bring Primary and Secondary Footpaths up to Design Guidelines linked with existing maintenance schedules and related footpath works or upgrades:</p>	Infrastructure		
	<ul style="list-style-type: none"> Surface smoothness 		H	
	<ul style="list-style-type: none"> Width 		M	
	<ul style="list-style-type: none"> Material 		M	
	<ul style="list-style-type: none"> Pram Ramps 		H	
	<ul style="list-style-type: none"> Grade 		L	
	<ul style="list-style-type: none"> Public Toilets, Seats Drinking fountains 		M	
	<ul style="list-style-type: none"> Reduced crossing widths 		M	
	<ul style="list-style-type: none"> Maintained direction at intersections 		M	
	<ul style="list-style-type: none"> Raised or different markings/surface at intersections (zebras at intersections of safety concern) 		M	
	<ul style="list-style-type: none"> Signage at network intersections 		L	
Audit of pedestrian permeability 3.1.1	<p>In the Walking Zones identify and improve:</p> <ul style="list-style-type: none"> Blocked pedestrian access ways Potential new pedestrian access ways Signage improvements to increase awareness of pedestrian permeability <p>(Parallel Cycling improvements for all of the above see Bike Lane Network)</p>	Infrastructure	High - Annual	
Audit of crossover safety/gravel 3.2.7 & 3.2.8	<p>Audit of Primary and Secondary Routes to address safety and gravel issues. Work with landholders of identified 'problem' sites to improve the crossover for pedestrian safety and comfort. (Links to Bike Lane Network Gravel issue)</p>	Infrastructu re/ Landholder s	High - Annual	
Sequencing of traffic lights 3.3.2.5	<p>Work with VicRoads to achieve:</p> <ul style="list-style-type: none"> Early 'green man' Automatic call up Longer crossing times Where sequencing at two intersections can be linked, sequencing should favour at or below speed limit driver behaviour 	Infrastructure / VicRoads	High	



Task List



Improve existing Roundabouts 3.3.2.6	Modify existing roundabouts to improve walking (and cycling) movement at these intersections.	Infrastructure/ VicRoads	Medium	
Improve Castlemaine Station Intersection 9.1.2	Modify the intersection outside Castlemaine Station at Kennedy/Templeton Sts. to improve safety and pedestrian access between Castlemaine station and township, utilising the guidelines laid out under 3.3.2	Infrastructure	High	\$150,000
Improve Station Entrance 9.1.3	Work with V/line and Vic Track and advocate for the improvement of pedestrian access, amenity and safety at Castlemaine station.	Infrastructure/ V/line/ Vic Track	Medium	
Improve Mid-block crossings and pedestrian permeability on Arterial roads 3.3.3.4	Work with VicRoads to: <ul style="list-style-type: none"> • Slow traffic with street narrowing treatments and shorter crossing points • Remove dual carriageway (2 lanes) • Create pedestrian breaks at intervals of no less than 25 meters where parking is concentrated and parking bays marked • Use pedestrian refuges wherever there is dual carriageway and at pedestrian breaks points • Use signalised crossings at locations where all three networks require connection and at other locations with specific crossing needs 	Infrastructure/ (VicRoads where applicable)	High - Ongoing	
Slow traffic along walking and cycling routes 3.4.5 & 4.4.1	Continue to work with VicRoads towards lowering the speeds in our Walking Zones, on our Primary Walking Routes, Primary and Secondary Cycling Routes and in our Town Centre Zones.	Infrastructure	High - Ongoing	
Improve integration with bus stops 9.2	Provide better links with the Bus Stops on Footpath Network, better signage and facilities at stops	Infrastructure/ Bus Co.s, DOI	Low	
Police enforcement of footpath laws 11.2	Work with local Police towards enforcement focused on the issues that have the greatest impact on walkers and cyclists: <ul style="list-style-type: none"> • Speed on major walking or cycling routes • Drivers not giving way to pedestrians when leaving driveways, or turning across footpaths or at intersections. • Cars blocking footpaths 	Infrastructure/ Police	Medium - Ongoing	



Task List



Task / Strategy Ref	Details	Depart. / Partners	Priority	Cost Est.
Bike Lane Network				
Build Primary Bike Lane Connections on Arterial Roads 4.1.1 (See Strategy Maps)	Work with VicRoads to construct new or upgrade Primary Bike Lanes on arterial roads:	Infrastructure/ VicRoads		
	• Campbells Creek to Castlemaine – Main Rd/Johnson St. (Midland) - Fryers to Forest, approx. 3700m		H	
	• Castlemaine - Barker St. (Midland) – Forest to Downes, approx. 2280m		H	
	• Castlemaine – Elizabeth St. (Pyrenees) Johnstone to Martin, approx. 1300m			
	• Chewton to Castlemaine – Duke/Forest St. (Pyrenees) – Barkers to Pitman, approx. 5100m		H	
	• Maldon – High St. Grey to Franklin, approx. 2000m		H	
	• Maldon – Main St. High to Boundary, approx. 920m		H	\$50,000
	• Newstead – Lyons St. (Pyrenees) Codrington to Layard (res), approx. 530m	H		
Build Primary Bike Lane Connections on local Roads 4.1.1 (See Strategy Maps)	Construct new or upgrade Primary Bike Lanes on local roads:	Infrastructure		
	• Castlemaine - Wheeler/ Hargraves St. Templeton to Yeats, approx. 1230m			\$65,000
	• Castlemaine – Templeton St. Kennedy to Hargraves, approx. 460m			\$25,000
	• Castlemaine – Lyttleton St. Barker to Hargraves , approx. 230m			\$15,000
	• Castlemaine – Mostyn St. Barker to Hargraves , approx. 230m			\$15,000
Build Secondary Bike Lane Connections 4.1.1 (See Strategy Maps)	• Campbells Creek – Midland Hwy. Campbells Creek to Guildford - approx. 7300m	Infrastructure		
	• Castlemaine – Midland Hwy. Castlemaine to Harcourt - approx. (Note some sections completed with new Calder works) 6600m			
	• Castlemaine – Blakeley/North Sts. Barkers to Damascus - approx. 1040m			\$55,000
	• Castlemaine – Wheeler/Etty Sts. Yeats to Senior High School Campus South West corner – approx. 680m			\$35,000
	• Guildford - Midland Hwy. Fryers to Franklin – approx. 480m			
	• Harcourt – Old Calder Hwy Bridge to Warren/Bagshaw – approx. 830m			\$35,000
	• Maldon – Castlemaine – Maldon Rd. High to 150m S.E of South German Rd.– approx. 830m			\$45,000
	• Newstead – Lyons St. (Pyrenees) Codrington to Peel – approx. 250m			
	• Newstead –Codrington/Canrobert/Panmure Sts. Lyons to Lyons – approx. 800m			
	• Newstead – Creswick-Newstead Rd. Loddon River to Train Track approx. 480m (will connect to proposed bridge/trail)			
• Taradale – High St. Roderick to Henry – approx. 530m			\$30,000	
Known Cycling Routes 4.1.2	Develop Signage that reinforces:	Infrastructure / Communication	High	\$5,000
	<ul style="list-style-type: none"> The fact that cyclists use this route and are legitimate road users The legal right of cyclists to ride two abreast for safety and visibility A recommended passing distance of 1.5 meters (non-enforceable) 			
	Install signage on the following routes: (See 'Shire Walking and Cycling Routes' Map)	Infrastructure		
	Castlemaine to Maldon		H	\$2,500
Castlemaine to Newstead	H		\$2,500	
	Maldon to Newstead	H	\$2,500	



Task List



	Newstead to Guildford		M	\$2,500
	Guildford to Chewton via Vaughan		L	\$2,500
	Walmer to Muckleford South		M	\$2,500
	Castlemaine to Walmer		M	\$2,500
	Chewton to Taradale		H	\$2,500
	South of Taradale to Harcourt North		H	\$2,500
	Elphinstone to North of Sutton Grange		M	\$2,500
	Chewton to East of Sutton Grange via Faraday		M	\$2,500
	Harcourt to Sutton Grange		M	\$2,500
	Over Mt Alexander		L	\$2,500
	Work with local cyclists and/or cycling groups to conduct an audit of the 'Known Cycling Routes' to assess quality (see 4.1.2 for details)	Infrastructure/ Community Partners	Medium /Ongoing	\$5,000
Cycling Permeability 4.1.3	Work with local cyclists and/or cycling groups to conduct an audit of cycling permeability in the Walking and Cycling Zones, to identify and improve: <ul style="list-style-type: none"> Blocked cycling access ways Potential new cycling access ways Signage improvements to increase awareness of cycling permeability 	Infrastructure/ Community Partners	High	
Bike Lane Cleanliness 4.2.2	Develop a regular maintenance program for on-road bicycle lanes to ensure that regular cleaning of bike lanes is undertaken.	Infrastructure	As lanes are created	
	Where the maintenance is a VicRoads responsibility: <ul style="list-style-type: none"> Request they prepare a similar maintenance program Keep VicRoads informed of local cleaning needs	Infrastructure/ VicRoads	Medium/ Ongoing	
Bike Parking 4.2.2	Work with the Castlemaine State Festival and/or other relevant arts organisations towards achieving township appropriate bike parking and streetscape enhancement through public arts.	Infrastructure/Arts/ Community Partners	Medium - line up with State Fest 2010	



Task List



Task / Strategy Ref	Details	Depart. / Partners	Priority	Cost Est.	
Trails Network					
Primary Trail Network - through Castlemaine access Feasibility Study 5.1.1 (See Strategy Maps)	Feasibility study to look at providing off road access through Castlemaine connecting Campbells Creek Trail, Forest Creek Trail and Botanical Gardens. Key Locations:	Infrastructure/ Recreation	H		
	• Underpass at Duke St. / Happy Valley Rd. Forest Creek Bridge.			\$75,000	
	• Underpass at Wheeler St. Forest Creek Bridge.			\$75,000	
	• Underpass at Barker/Johnstone St. Forest Creek Bridge.			\$75,000	
	• Trail along Forest Creek connecting existing Forest Creek Trail to existing Campbells Creek Trail			\$100,000	
	• Trail bridge over Barkers Creek at Forest Creek junction			\$300,000	
	• Connections through Camp Reserve			\$100,000	
	• Connection across Walker into Gardens/Pool/Hospital			\$50,000	
Primary Trail Network - through Castlemaine 5.1.1	Build Primary Trail connections through Castlemaine (see above)	Infrastructure/ Recreation			
Primary Trail Routes 5.1.2 (See Strategy Maps)	Build the following Primary Trails:	Infrastructure/ Recreation	H		
	• Campbells Creek - Complete the Campbells Creek Trail				
	• Castlemaine - Complete Extension of Gingell St. Shared Footway to Walker St along Barkers Creek (connects to gardens via proposed crossing – see above)			\$45,000	
Increase Inter-town Trail Access 5.1.3	• Castlemaine – Shared Footway along North St. (connecting Junior High campus to Gardens trail via proposed crossing – see footpath crossings)	Infrastructure/ Recreation	M	\$65,000	
	Work with VicTrack, Coliban Water, Parks Victoria, Victorian Goldfields Railway and other relevant authorities towards securing the following trails for the community's use:				
	• Trail alongside the Castlemaine to Maldon rail line			H	
	• Trail alongside the Castlemaine to Newstead rail line			M	
	• Trail along the Coliban water race, Taradale to Great Dividing Trail, North- East of Harcourt	Infrastructure/ Recreation/ VicTrack, Coliban, Parks Vic, Victorian Goldfields Railway	M		
	Explore the opportunities for State and Federal funding for these trail developments.			High	
Secondary Trail Routes 5.1.2 (See Strategy Maps)	Build the following Secondary Trails:	Infrastructure/ Recreation/ VicTrack, Coliban, Parks Vic, Victorian Goldfields Railway	M	\$16,000	
	• Campbells Creek - Shared footway along Stephen, Wilkie, ETTY Sts. Connecting township to Senior High Campus.				
	• Castlemaine to Steiner School. Shared footway along Elizabeth St, Johnstone to Maldon Rd. Intersection, roadside trail along Pyrenees, Maldon Rd to Steiner School.			\$500,000	
	• Maldon – Shared footway along Morris St. Connecting Township to existing Trail.			\$60,000	
	• Maldon - Shared footway along Phoenix St. Connecting Township to proposed Rail Trail.			L	
	• Newstead – Connect both sides of town (two options being explored)			H	
	• Newstead – Connect South West side of town to Rec Reserve along Church St.			M	\$60,000
Trail Planting/Amenity 5.4	Work with local groups to improve the planting and amenity of the Trail Network.	Infrastructure/ Community Partners	High		



Task List



Task / Strategy Ref	Details	Dept. / Partners
Protect pedestrian and cycling access ways 3.1.1	Develop appropriate local planning policies to protect important pedestrian (and cycling) access ways	Strategic Planning
Maintain Unimpeded Footpaths 3.2.5	Develop clear footpath trading guidelines	Strategic Planning
3.2.5	Ensure building works have a minimal impact on footpath access by requiring stronger conditions and better enforcement for building permits that block or create impediments on the footpath	Statutory/Strategic Planning
Protect pedestrian access at driveway and road related area cross-overs and related gravel issues 3.2.6, 3.2.7 & 3.2.8	<p>Strengthen existing controls and develop appropriate new local planning policies to ensure:</p> <ul style="list-style-type: none"> • better sight lines for vehicles crossing the footpath • Pedestrian right of way is better communicated to vehicles entering and exiting road related areas in terms of signage, road/footpath treatments and the reduction of visual impediments for clear site-lines • Vehicles entering and exiting a road related area are slowed by appropriate traffic calming measures (e.g. speed humps), narrower turning circles, and shorter footpath crossing widths 	Strategic Planning
3.2.6, 3.2.7 & 3.2.8	<p>Develop appropriate local planning policies requiring businesses along Primary Walking Routes and Primary Cycling Routes to reduce gravel from road related areas being pulled across footpaths, road shoulders, bike-lanes and roads by one of the following:</p> <ul style="list-style-type: none"> • Paving their road related areas • Taking responsibility for cleaning debris • Contributing to the financial costs associated with cleaning 	Strategic Planning/Infrastructure
3.2.8	Develop process for paying particular consideration when granting planning and building permits on Primary Walking Routes	Statutory Planning
Improve shading on pedestrian routes 3.4.1	Ensure that shading and seasonal comfort issues for pedestrian spaces are a core consideration when developing streetscape/landscape policies and undertaking landscaping works.	Statutory/Strategic Planning
3.4.1	Encourage effective verandas over the footpath in the design and construction of new retail and commercial development within the Town Centre Zones and along Primary and Secondary Walking Routes, both in areas where heritage concerns apply and where more modern styles are developed. The redevelopment of verandas on older buildings, whether C19 or C20 will also be encouraged	Statutory/Strategic Planning
Protect Trail Access and amenity 5.4	Work towards planning guidelines that will protect Primary Trail Routes against development that impinges on the access, views and visual amenity of these trails	Strategic Planning



Task List



Integrate WACS policies into MSS 10	Integration of the Walking and Cycling Strategy policies and guidelines into the MSS	Strategic Planning
Improve new developments for walking and cycling 10	A clearer articulation of what all major new developments need to do to design for walking and cycling from the ground up (Active by Design approach)	Strategic Planning
Integrate walking and cycling Town Planning processes 10	All town planning processes prioritising 'vibrant and attractive walking and cycling environments'	Strategic Planning
Maintain Unimpeded Footpaths 3.2.5	Promote proper placement of bins out for collection so that they don't block the footpath	Enforcement
	Enforce parking controls so that cars and delivery vehicles parked across the footpath are fined appropriately.	Enforcement
	Ensure overhanging branches from Council plantings or private gardens are kept from obstructing the footpath	Parks and Gardens/Enforcement
Enforcement of Planning regulations 3.1.1, 3.2.5, 3.2.6, 3.2.7, 3.2.8, 3.4.1, 5.4, & 10	Ensure compliance with walking and cycling planning regulations	Enforcement/ Statutory Planning
Maintain Unimpeded Footpaths 3.2.5	Develop media campaigns to promote the importance of the road rules in relation to pedestrian access	Communication
Safety at Driveways 3.2.6	Develop media campaigns to promote safe driving behaviour around driveways and footpath crossings.	Communication
Driver Behaviour/Culture Change 3.4.7	Work with partners to deliver media campaigns and programs to raise public awareness in the area of road safety.	Communication/ Police/ Other Partners
Known Cycling Routes 4.1.2	Develop a media campaign to promote the new 'Known Cycling Routes' signage and the concepts it covers.	Communication/ Infrastructure



Task List



Improve Driver Behaviour 11.2	Promote improved driver behaviours through Shire News, other news outlets	Communication/ Infrastructure
	Develop a Local 'Safe Driving Award' with road safety partners	Communication/ Police/ Other Partners
Cycling for work 4.4.3, 11.3 & 11.1.4	Work with staff and local employers to encourage cycling to and from as well as for work purposes.	
	Build on the work that has been done with our Pool Bikes to ensure their expanded use for work purposes, and to encourage walking and cycling to and from work as a healthy lifestyle choice.	
	Encourage other employers in the Shire to follow our lead and develop 'Green Travel Plans' for their staff and workplace.	
Develop a Wayfinding system 7, 7.3 & 9.2	Work towards developing a clear, consistent, connected and complete Wayfinding system across the Shire that assists walkers and cyclists to comfortably navigate their way around.	Infrastructure/ Communication/ Strategic Planning/ Tourism
	Continue to work with relevant local businesses and community groups towards the development a consistent approach to maps and brochures that integrates stylistically with other Wayfinding infrastructure and publications	
	Integration of bus and coach information with other Council maps and publications.	
Lighting Audit 8.2	Assess lighting levels along the Primary Walking, Cycling and Trail Routes and to respond to identified problems of lighting safety on these routes.	Infrastructure
Lighting options 8.3	Explore low energy – low maintenance options for footpaths, bike paths and trails.	Infrastructure
Integration with Steam Rail 9.1.1	Continue to work with Victorian Goldfields Railway to expand tourist and transport options in the Shire, particularly those that promote and integrate with walking and cycling	Infrastructure/ Communication/ Tourism



Task List



Improve Bike Access on Buses/coaches 9.2	Work with bus and coach service providers and Department of Transport to advocate for quality bicycle access on their services.	Infrastructure / DOT/Bus-Coach Providers
Community Engagement 11	Work with community groups towards increasing walking and cycling at a grass-roots level in the Shire	
Walking Cycling Tourism Information 11.1.5	Work with local interest groups to provide the best quality and most up-to date information about walking and cycling options in the Shire. This will also need to be combined with food and accommodation options that are available close to the three networks.	Communication/ Tourism
Walking and Cycling Advisory Committee 11.1.6	Establish a Walking and Cycling Advisory Committee	
Staff Training 11.3.1.2	Provide specific training and professional development to relevant staff in the area of walking and cycling infrastructure and awareness.	Infrastructure
Business Opportunities 11.4	Explore opportunities to encourage and expand walking and cycling business in the Shire through our business development area - See initiatives under 11.4	Business Development
Healthy Transport Officer 11.5	Explore funding opportunities for the creation of a 'Healthy Transport Officer' (or other title) to oversee the initiatives detailed in section 11 of this Strategy.	
Indicators, Measures and Targets 12	Develop a set of indicators and measures in consultation with the Walking and Cycling Advisory Committee to assess whether walking and cycling are increasing and improving in the Shire. To do this quality baseline data will need to be established within the next year and then conducted annually or at regular intervals.	Infrastructure / Walking and Cycling Advisory Committee
	Develop a set of targets in consultation with the Walking and Cycling Advisory Committee after quality baseline data is established.	Infrastructure/ Walking and Cycling Advisory Committee

